THE BRITISH PTERIDOLOGICAL SOCIETY

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The BRITISH PTERIDOLOGICAL SOCIETY was founded in 1891 and today continues as a focus for fern enthusiasts. It provides a wide range of information about ferns through the medium of its publications and other literature. It also organises formal talks, informal discussions, field meetings, garden visits, plant exchanges, a spore exchange scheme and fern book sales. The Society has a wide membership that includes gardeners, nurserymen and botanists, both amateur and professional. The Society's journals, *The Fern Gazette*, *Pteridologist* and *Bulletin*, are published annually. *The Fern Gazette* publishes matter chiefly of specialist interest on international pteridology, the *Pteridologist*, topics of more general appeal, and the *Bulletin*, Society business and meetings reports. **WWW site**: http://www.eBPS.org.uk

Membership is open to all interested in ferns and fern-allies. **SUBSCRIPTION RATES** (due on 1st January each year) are Full Personal Members £20, Personal Members not receiving *The Fern Gazette* £16, Student Members £10, Subscribing Institutions £33. Family membership in any category is an additional £2. Applications for membership should be sent to the Membership Secretary (address above) from whom further details can be obtained. (Remittances made in currencies other than Sterling are £5 extra to cover bank conversion charges.) **Airmail** postage for all journals is an extra £4, or for those not receiving *The Fern Gazette* £2.50. **Standing Order** forms are available from the Membership Secretary and the BPS website.

(**Front cover**: *Elaphoglossum crinitum*. Illustration from: G. Schneider (1892) *The Book of Choice Ferns*.)

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RETIRING PRESIDENT'S ADDRESS

'A Garden of British Ferns'

Alastair C. Wardlaw

(Presented after the AGM at The Natural History Museum, London, 20 March 2004.)

It was adder's tongue that started my interest in ferns. The year was 1945 when I was 15, and the place was a grassy bank beside the towpath of the Stockport-Macclesfield Canal in Cheshire. I was with my father, Claude W. Wardlaw, who needed some *Ophioglossum* for a practical class at Manchester University where he was Professor of Cryptogamic Botany. He showed me the first adder's tongue, after which it was a challenge for me to find more. Soon I got my eye in and thereafter enjoyed the fun of the chase, looking for the elusive spikes in the smothering vegetation. In 1947, another early triumph was finding moonwort during a family holiday in Appin, Argyll. About 55 years later I had just as much pleasure on a BPS field excursion in 2002 with Barry Wright, looking for *Botrychium lunaria* on the roadside verges of the North York Moors.

In my late teens I bought second-hand, for three shillings and sixpence, the two volumes of Lowe's *Our Native Ferns* (1867). There I read about the crested (fen) buckler fern, *Lastrea* (now *Dryopteris*) *cristata*, having a site in a Cheshire bog. But when I went there on my bike, a 50-mile round trip, the land had been drained and the bog was no more; likewise its anticipated inhabitant. The words 'conservation' and 'biodiversity' were not yet in the public vocabulary but I took on board, albeit subconsciously, the idea that some of Britain's rare ferns in special habitats were being extinguished.

I then did little with ferns until the mid-1960s, when Jackie and I were married with three young children and had a house and garden in suburban Toronto, Canada. On family rambles into the Canadian bush it was a delight to discover that *B. lunaria* occurred in Ontario and that there were several other species of *Botrychium* to be sought, and also that *D. cristata*, which I had never found in Britain, was relatively common in Ontario. I grew some of the ordinary ferns of the Ontario countryside in our Toronto garden for several years.

Leaving Toronto in 1970, we came to live in Glasgow in a Victorian house with a mature 0.4-acre garden. It contained numerous 'weed' plants of *Athyrium filix-femina*, and a single proliferous cultivar of *Polystichum setiferum*, which is still here. From time to time I grew some of the common wild ferns, but this was very sporadic as I was too busy professionally. Around 1985 however, I became aware of the feasibility of growing ferns from spores, which I then collected on annual trips to Canada. I also discovered that there were specialist nurseries in Britain where I could buy a wide range of native British species and cultivars, and also foreign ferns. The number of different ferns in the garden then increased rapidly, by culture from spores and by purchase.

One of the lessons learned at that time was that ferns from diverse habitats and distant geographic regions could be grown side by side in our Glasgow garden. For example, *Dryopteris marginalis* and *Adiantum pedatum* are natives of eastern Canada (and USA), while *Polystichum munitum* and *Polypodium scouleri* are restricted to British Columbia and the Pacific North-West. These two locales are 2,000 miles apart, and much further still from Glasgow, yet all four species grow just as well as native British ferns in our garden. This I find fascinating because of the questions raised about fern adaptation, and how the native fern floras of different regions of the world became established in the first place, and then maintained.

Up until 1991 my then 46 years of interest in ferns had been essentially private and solitary, with no social dimension. Then quite by accident a local friend, Prof. Jim Dickson who happened to be a member of the BPS, mentioned The British Pteridological Society, which I should join. It was like pulling back the curtain in a theatre and revealing a stage filled with interesting characters talking enthusiastically about ferns. Space here does not allow the dozens of names I would like to mention, nor the many meetings and excursions that have given enormous pleasure. Can I simply say that I feel extremely grateful to the numerous members of the Society who have taught me so much about how to find, identify, grow and enjoy ferns, and who have become such steadfast friends. It has therefore been an extraordinary honour and privilege to have had the opportunity to serve the Society as President these last three years, in succession to Martin Rickard. I especially thank all members of the Committee during this time, for their support, guidance and above all, patience!

After joining the BPS in 1991, I regularly asked for an allocation of spores from the Spore Exchange. Within a few years, from that source and by gift and purchase, the garden contained most of the native British ferns and many cultivars, as well as numerous foreign species. Now, with *D. cristata* to be seen each day in the garden, I feel I have come a long way from the unproductive bike ride of 1947 to visit its extinct Victorian site in a Cheshire bog. Strangely, despite its rarity in the wild, *D. cristata* is not difficult to keep in a garden, and the same may be said of the majority of other native fern species, including most rarities. A few species do, however, require special microhabitats and simply will not survive in the open garden. I therefore built transparent enclosures, with percolating ground water, to keep *Asplenium marinum*, *A. obovatum* subsp. *lanceolatum*, *Anogramma leptophylla* and the filmy ferns. At the time of this writing the only native British species *not* in the collection is *Ophioglossum lusitanicum*.

I find it especially satisfying to grow *Athyrium flexile*, a gift from Dr Heather McHaffie. It occurs in the wild only at elevations above 2,000 feet, where it spends several months each year under snow, whereas in our garden it lives close to sea level, with only occasional and short-lived snow. It is the only fern endemic to

Scotland, which makes it special. I have to confess some disappointment about its now-accepted taxonomic placement as *Athyrium distentifolium* var. *flexile*, rather than as a species in its own right. This assignment is because *A. distentifolium* and its var. *flexile* differ only at a single genetic locus and are capable of interbreeding, with production of fertile offspring. Yet to a field botanist, the major differences in frond morphology are consistent with the two taxa being separated as 'good' species. Query: how many other 'good' species in the various fern floras are actually just varieties? Only meticulous breeding experiments, such as Heather's, could tell.

Until about 1997 it had not occurred to me that my fern garden had much relevance to *conservation*, as such. However, a new awareness was opened up by a visit from Cameron Carmichael, one of the Co-ordinators in Scotland for the National Council for the Conservation of Plants and Gardens (NCCPG). He suggested that my collection would qualify as a National Collection of Ferns (British), and sure enough it did in 1999, after I had made a formal application. In compiling my species list, I noted that nearly 40% of native British fern species are *rare*, *vulnerable* or *threatened*, mainly through loss of habitat. This focused on the question of *in situ* versus *ex situ* conservation, i.e. respectively, preserving intact the whole of the wild habitat that contains the species, as against keeping the species alive through horticulture (and/or storage of spores). Thus what with me had started as a gardening hobby collection of native British ferns had become an example of *ex situ* conservation.

In our overcrowded UK, it seems likely that such collections may become increasingly attractive as insurance against loss of those species whose wild habitats are threatened. According to some pessimists (are they realists?), if present trends continue, the whole of Britain will eventually consist of nothing but built-up areas and highways, intensively managed farmland, and national parks. Whether or not this happens, I hope the BPS will encourage other National Collections of British Ferns, especially as many members already have extensive collections in their gardens.

The conservation of cultivars is a separate and perhaps more important undertaking if we are to avoid the tragic extinguishing of native fern varieties, such as occurred after World War 2 when major collections were thoughtlessly destroyed.

Although ferns are common in the British countryside, the number of different species is quite small. In fact, there are only about 53 native species, the exact figure depending on whether certain taxa are treated as full species, subspecies or varieties. This flora is therefore very modest when compared, for example, with Japan's 600+ species of ferns. A major causative factor in Britain was what might be called 'plant ethnic cleansing', brought about by the Pleistocene glaciations, which Japan escaped. Thus the 10,000 years since the last ice retreated from Britain may not have been long enough for restoration of a presumably larger pre-glaciation flora. I am therefore investigating just how wide a range of temperate foreign species *might* grow in Glasgow. These activities are directed at creating a 'Garden of *Potentially* British Ferns', which may even come within striking distance of Japan's 600+ species.

I cannot end without saying something about tree-ferns, especially as *Dicksonia antarctica* is now a naturalised alien and represented in my garden. It was Martin Rickard who introduced me to these fascinating plants and who has been a sustaining influence ever since. Finally, it gives me both pleasure and reassurance that my successor as President is Dr Adrian Dyer. Unlike me, he is a professional pteridologist with a worldwide reputation and I am confident that the Society will prosper with his leadership.

NATIONAL FIELD MEETINGS 2004

TRINIDAD, WEST INDIES – 9-18 January

Introduction

Yvonne Golding & Graham Ackers

Trinidad lies at the southern end of the huge sweep of Caribbean islands and is situated just seven miles off the coast of Venezuela. Being just 10° north of the equator it falls into the tropical zone. Geologically, Trinidad was formed from deltaic deposits dumped by the Orinoco River; it is composed solely of sedimentary and metamorphic rocks. Only 10,000 years ago Trinidad was joined by a land bridge to the mainland. As a consequence it has a very rich fauna and flora derived mainly from South America but also from the Lesser Antilles. Climatically the island enjoys an average temperature of 32°C, which drops by around 5°C at night, although it gets much cooler than this with altitude. When we visited in January (reputedly the dry season) we experienced quite a range of temperatures (although never cold) and endured some quite heavy showers, after which humidity reached 100%, but then one part of the island can experience quite different weather from another. The northern part of the island is dominated by a range of mountains running east-west (the Northern Range), which is covered in forest and rises to over 900m in places. Other ranges of lower altitude occur in the middle (Central Range) and in the south (Trinity Hills). Swamps occur around the coast, the best known being the Caroni Swamp lying just south of the capital, Port of Spain. The rest of the island consists of undulating plains and savanna, some of which have been significantly transformed by agriculture.

Having completed the journal editing of the Trinidad and Tobago fern checklist in 2000 (Baksh-Comeau, 2000), Josephine Camus of the Natural History Museum suggested the idea of a BPS field excursion to Trinidad, and we agreed with Yasmin Comeau that this should go ahead in January 2004. A few initial comments on the excursion logistics would be appropriate. The party stayed at the Pax Guest House in the southern foothills of the Northern Range, this being an ideal location for most of the sites visited. The Guest House is part of the Mount St Benedict Monastery Estate, the managers having effected a guest house conversion with a quaintly colonial feel. The accommodation is ideal for people and parties undertaking ecological pursuits, as exemplified by the deployment of various bird feeders in the gardens. Our transport was a combination of minibus and private vehicles, including very valuable 4x4s. Yasmin organised the daily excursion sites, on each of which we were accompanied by a combination of guides – Yasmin herself, her husband Paul Comeau, Winston Johnson (Senior Technician at the Herbarium), Dan Jaggernauth and Edmund Charles. The presence of these people was essential to us, as the majority of the trails would have been impossible to follow without expert local knowledge.

The BPS party members were Graham Ackers, Patrick Acock, Roland Ennos, Yvonne Golding, Michael Hayward, Jennifer Ide, Elise Knox-Thomas, Andrew Leonard, Frank McGavigan, Martin Rickard, Paul Ripley and Lesley Williams.

The sites visited are numbered in the section headings below and the species table (p.191), and coincide with the site locations map (p.190). The literature we used to help identify the ferns included Yasmin's checklist (see above), a ring-bound book with illustrations originally prepared by John Mickel for a student course (Mickel, 1985), and a Lesser Antilles flora (Proctor, 1977). A full flora of the Trinidad ferns has yet to be produced. Useful background information to the Trinidadian environment was gleaned from Jermy, 1985.

As is customary on longer BPS excursions, different members of the party took responsibility for recording and reporting individual days, and so the accounts that follow inevitably show variations in style, content and length!

National Herbarium of Trinidad and Tobago (Friday 9th) **Yvonne Golding**

On our first morning we were welcomed to The National Herbarium of Trinidad and Tobago by Yasmin, who is the curator. She gave us an informative talk about the history and development of the herbarium. The Herbarium was established in 1887 by John H. Hart, the superintendent of the Royal Botanic Gardens in Port of Spain. For sixty years it was managed by the Department of Agriculture based in St Clair, Port of Spain. In 1947 it was transferred to the Imperial College of Tropical Agriculture, now the Faculty of Science and Agriculture. The Herbarium, which gained national status in 1972, operates from the Sir Frank Stockdale Building on the St Augustine campus of The University of the West Indies. Overall the herbarium contains about 70,000 specimens (including *c.* 3,000 pteridophytes), some of which date back to 1844. It is an excellent resource. The current checklist of pteridophytes numbers 302 species with eight varieties or subspecies in 27 families and 77 genera. Of these, 282 species are believed to be indigenous to Trinidad and Tobago. This reinforced our belief that we were clearly going to have a productive trip!

Then followed a fascinating lecture about the vegetation of Trinidad given by Paul Comeau. Paul is a plant community ecologist, and taught ecology at UWI. Originally from Canada, he studied for his PhD with David Bellamy at Durham before coming to The West Indies and meeting Yasmin, who later became his wife.

Although not a large island (approaching 2,000 square miles, 1.3 million people) Trinidad has a wide range of natural vegetation types; 18% is covered by natural forests although this is dwindling. It contains four types of forest – evergreen, semi-evergreen, deciduous and littoral woodland. The main habitats are lower montane forest (250-750m) with an abundance of ferns, montane rain forests (confined to altitudes 750-840m) with plenty of epiphytes and tall tree-ferns, some elfin woodland (840-925m) characterised by trees with short, gnarled stems with palms and tree-ferns, brackish swamps containing three genera of mangrove, fresh water swamps with many palms, herbaceous swamps, savanna surrounded by marsh forest, and grassland.

Our itinerary was to include all these vegetation types. We were promised ten-metre high tree-ferns in the montane forests. By this time we were in a highly excitable state at the prospect of what was to come. After a good lunch at the university we returned to our excellent guest house and set off on our first tropical walk up Mount St Benedict.

Site 1, Mount St Benedict (Friday 9th) **Graham Ackers**

This walk we did alone, without any of our guides, and we managed not to get lost! Reaching the start of the trail involved a short but steep walk along paved roads within the monastery estate. Ferns observed on the walls were *Pteris vittata*, *Nephrolepis biserrata* and *Pityrogramma calomelanos*. We reached the Old Donkey Trail, which initially runs along the side of a steep valley in closed canopy forest, which appeared to be fairly dry. Ferns seen were *Blechnum occidentale*, the quaint *Adiantopsis radiata*, a couple of delightful *Anemia* species and *Lygodium venustum*. Approaching and crossing the stream, the humidity level increased noticeably and so did the presence of ferns, some very large – *Cyclopeltis semicordata*, *Lastreopsis effusa* and *Tectaria incisa* were particularly striking. Of more modest size, *Polypodium polypodioides* occurred on the stream bridge. Ferns present both on the higher path and by the stream were *Bolbitis portoricensis* and *Thelypteris tetragona*. After crossing the stone bridge, the path wound up the other side of the valley; this section appeared even dryer than the first. Despite this, one filmy fern, *Trichomanes pinnatum* was seen and also the scrambling *Lygodium volubile*. The trail reached a pine forest plantation, at which point we turned round and retraced our steps. A total of six species of *Adiantum* was recorded from along the whole of the trail. A very attractive leaflet describing the trail was available from the guest house (although its main focus was birds and butterflies, not much help with fern identifications!)

Site 2, Morne Bleu (Saturday 10th) **Pat Acock**

After a fair drive we reached our destination, the top of the ridge west of Morne Bleu. While waiting for the whole convoy to arrive we busied ourselves identifying the ferns of the woodland edge. For those new to the tropics the two gleicheniaceous ferns *Dicranopteris pectinata* and *Gleichenia remota* were of special interest although there were also cyatheas and *Hypolepis repens*. The rain started coming down but was compensated for by the arrival of a spectacular blue humming bird. We were joined by Yasmin and Paul Comeau and many colleagues from departments as diverse as geology, forestry and anthropology. Howard Griffiths from Cambridge University, who was studying gas exchange in bromeliads, also joined us (for this and some of the later excursions).

photo: J.M. Ide

Polybotrya osmundacea in montane forest, Morne Bleu, Trinidad

We walked around the satellite station to the top of the ridge and followed the trail eastwards. Every-thing was totally new to most of us and we took Yasmin's advice not to linger at every plant or we would become overwhelmed and not see the species we had especially come to see on the ridge. It was difficult but very sound advice because we soon realised that one or two of the most common ferns could be very variable. Progress inevitably slowed with the wealth of ferns on the forest floor, scrambling onto the trees and simply growing on the trees. *Danaea* on the forest floor, *Polybotrya* and *Salpichlaena* growing on the floor of the forest and then scrambling up the vegetation, and numerous polypodiums, *Trichomanes* and *Grammitis* clinging to trunks all added to our sense of wonder.

Eventually we sat down for lunch, and were joined by our guide, Edmund. Afterwards some chose to search around where we were, while others went on with Edmund, who hacked his way forward to reach the summit of Morne Bleu. As we moved upwards we noticed new ferns in addition to those we were beginning to recognise. We returned westwards and met the main party and were able to descend the ridge a little way down the south slope, where we encountered a few new thelypterids as well as a large group of the spectacular (as the name suggests) *Trichomanes elegans*.

On returning to the vehicles a large cool box awaited us, full of fruit juices as well as the somewhat unusual egg nog. Tired, but delighted with the day, we spent the evening sorting through our specimens and naming them. This regular practice formed the greater part of our evening entertainment during the rest of the week, helping with the *esprit de corps*.

Site 3, Moruga Bouffe (Sunday 11th) **Jennifer Ide**

This was the day that wasn't as it was planned! After a very early breakfast we set off along the Hochoy Highway to San Fernando, then inland through sugar cane country to the very

south of the island to the Moruga Mora Forest, about nine kilometres east-north-east of Moruga, along the Moruga River. A previous reconnoitre had shown that the intended track was overgrown and considered too dangerous to attempt because of possible hidden mud volcano vents in the ground. A hunters' trail was followed instead.

After parking the vans near a 'nodding donkey' oil well, which captured our interest for a while, we started through degenerate secondary forest. The more common trees of this forest included *Guazuma ulmifolia*, *Cupania americana*, *Cecropia peltata*, the shrub-like *Acnistus arborescens*, and two palms, the large *Roystonea oleracea* (royal palm) and the smaller *Bactris major*. *Cecropia peltata* has a distinctive, slim, unbranched trunk, and of all the trees in the forest, it alone is (usually) without climbing vines and epiphytes. Directly above some of the leaf scars along its trunk, which can reach a height of 20m, is a pit through which ants of the genus *Azteca* gain access to a cavity below, in which they live. The plant secretes globules of energy-rich glycogen at the leaf base, which is used by the ants, and which, in turn, keep the tree free from vines and epiphytes. The ground flora was dominated by *Heliconia* species, particularly the large *H. bihai* (wild plantain), with its banana-like leaves and large terminal inflorescence. Heliconias are typically found in secondary forests in Trinidad, many of which have succeeded abandoned cocoa and coffee plantations. The degeneration of the secondary forest at Moruga is the result of the disturbance of the forest by the pipe-laying activities of the oil company. Ferns were not immediately obvious in this secondary forest and the number of species was small. Growing along the trackside was a *Thelypteris* and occasionally *Tectaria incisa* was seen in the general vegetation. *Cyclopeltis semicordata* grew along the river bank.

After an hour's trek through the secondary forest, the vegetation suddenly changed and we entered a Mora forest. Unlike the typical diverse tropical forest, the trees are substantially a mono-specific stand, eighty percent of the tree cover being *Mora excelsa* (mora). On the forest floor, emerging from their extraordinarily large, bean-like seeds, were mora saplings with uniquely pale, vertically hanging leaves. Palms dominated the subcanopy of this primary forest, *Roystonea oleracea* being common. The trees frequently support lianas and epiphytes, although the latter were not as prolific as had been observed in other forest types we visited. The forest is liable to regular flooding, with the result that the ground vegetation is open. Ferns were far more common than in the secondary forest, but the diversity in terms of number of species and life forms was low. Certainly ferns were not a dominant component of the ground community. Terrestrial ferns recorded were *Adiantum lucidum* (stream and river banks), *A. macrophyllum* (moist rocky banks – a small fern, the mature pinnae of which are glaucous blue underneath), *A. obliquum* (common), *A. polyphyllum* (introduced as an ornamental), *A. pulverulentum* (frequent along path, fertile when well inside the forest), *A. villosum* (common on banks and hillsides), *Lygodium venustum* (only small, young plants seen), *Selaginella* sp. (specimen to be identified – stems rooting at their tip), *S. muscosa* (in damp areas along the path), *Thelypteris dentata* (introduced), *T. poiteana* (by the path, common), *T. pennata* (banks), *T. serrata* (wetter areas of the forest floor) and *T. tetragona* (banks, common). Epiphytes that we identified on tree trunks were *Asplenium serratum* (*A. nidus* look-alike), *Dicranoglossum desvauxii* (on mossy tree trunks, small, dichotomously forking, tufted, sori at tip of each lobe), *Niphidium crassifolium* (another *Asplenium nidus* look-alike from a distance) and *Microgramma acatellela* (frequently seen on fallen trees).

Unfortunately, after three hours of hard walking along a very muddy, slippery track we still had not reached our first objective and so it was decided to abandon the intended programme, which eventually would have brought us to the Moruga Bouffe, a large and active mud volcano area. After a rest for lunch, we decided to return the way we had come for fear of not being out of the forest before darkness fell. On returning to the vans, a single specimen of *Pityrogramma calomelanos* was found at the parking area.

To assuage our disappointment at not seeing the Moruga Bouffe, the most inaccessible of the mud-volcanoes of Trinidad but said to be the most spectacular, our drivers kindly rushed us to the Devil's Woodyard mud volcanoes near Princes Town. However, these were merely metre-high mounds hardly oozing mud! Victor Quesnel, a native Trinidadian, could not help himself: "*Fancy bringing these people to what must be the most unspectacular site in Trinidad!*"

It was a very tired party that finally arrived back, late and hungry, at the hotel.

Site 4, Aripo Savanna, & Site 5, Marsh Forest (Monday 12th) Andrew Leonard & Paul Ripley

This was supposed to be an easy day after the extraordinary exertions of the previous two days. We left the guest house at 9.00 a.m. and went to the University to pick up our guides as usual. Our minibus driver then stopped at the Arima crossroads so that we could buy our lunch at the roadside roti stalls. At 10.30 we arrived at the first site, Aripo Savannas Scientific Reserve. After a short hot walk in the sun, we entered the relative cool of a shady forest. Epiphytic polypodiums and track-side *Lindsaea stricta* var. *stricta* were the features here. Following our guide, Dan Jaggernauth, we proceeded to walk towards a river where the fern flora was richer, with *Selaginella plana* prominent, together with *Adiantum* and cyatheas. Underneath a bridge over the river, we found a colony of bats waiting to be photographed.

After lunch we drove to another part of the reserve to walk across the savanna. This was open grassland with drainage ditches and characteristic stands of the Moriche palm (*Mauritia flexuosa*). Ditches contained water at the time of our visit but this area must become parched in the dry season. Andrew luckily spotted a mouse opossum (locally manicou grozier), which posed in a bush for us for several minutes.

Back at the guest house we had the usual debate about what ferns we had seen during the day, followed by the usual excellent dinner and wine.

Site 6, Cerro del Aripo to Peak Two, and Site 7, Cerro del Aripo to Peak Five (Tuesday 13th) Frank McGavigan & Michael Hayward

Cerro del Aripo, at 940m, is the highest point in Trinidad. The programme warned "All Day Trip – Strenuous", and so it proved. The approach starts on La Laja Road, which soon becomes impassable for vehicles (the area is sparsely populated and therefore lacks sufficient political clout to encourage resurfacing). We continued on foot in blazing sun for two hours before reaching the trail proper. Paul Comeau said it would take another four hours to reach the top with its Elfin Forest, characterised by a low tree canopy, constant wet and a predominance of mosses and ferns. It was already 11.00 a.m. so it looked unlikely that we could make it with sufficient time to return in daylight, but when Dan Jaggernauth said it could be done in two hours, how could we resist the attempt? So the party split in two. Dan led Andrew, Pat, Paul and Frank, accompanied by Howard Griffiths and Adrian Hailey (an amphibian specialist) on the high trail to Peak Five (the highest peak), while the others, led by Yasmin and Paul, explored the lower slopes of Peak Two in more detail.

To give time to get back before dark the upper party promised to blinker themselves to ferns on the way up. But of course the temptation was too great. Almost immediately we spotted *Trichomanes osmundoides*, which we had been searching for earlier in the week, and *T. elegans*. These are magnificent filmy ferns of the size and beauty of our own Killarney fern, but far more abundant. Indeed we became quite blasé about them. The trail, which Dan was having to rediscover by hacking his way through the bush, goes up and down over five peaks, often very steep and always muddy and slippery. But don't think of grabbing any old branch to steady yourself because many of the palms and tree-ferns are covered with spines, others with biting ants, and there is always the possibility of encountering one of Trinidad's four poisonous snakes or the occasional tarantula.

Despite the murderous pace set by Dan, ferns were examined, photographs taken, and fronds collected and valiantly carried back by Pat for later identification (over 40 different species.) The

highlight came when Andrew spotted *Blotiella lindeniana*. This beautiful fern is covered with fine hairs (we immediately called it the 'furry fern') with a soft texture to the fronds (unlike most tropical ferns, which are tough and hard to the touch). It is quite a rarity in Trinidad, having only been collected twice and one of these by Yasmin on this very trail – probably the same plant. The fronds are a metre or more in length and pinnate-pinnatifid with a nicely uneven rounded appearance to the lobes. It has a superficial resemblance to *Lonchitis hirsuta* (not recorded by us) with which it has been confused in the past. Near the top Paul spotted *Elaphoglossum crinitum* (one of five elaphoglossums found that day). This one had large, ovate (pointed paddle-shaped), simple fronds some 350 x 200mm in size with a black bristly stipe – very impressive. As we got higher the tree-ferns grew taller, one right at the final summit being some ten metres high. These were almost certainly the endemic *Cyathea sagittifolia* although the height of the fronds made exact identification impossible. There are six *Cyathea* species in Trinidad, with *C. sagittifolia* abundant in the upper montane forest and *C. microdonta* common at lower altitudes. The others are rarer. We made it to the top in two and a half hours – a very creditable performance according to Dan.

The second group took a more leisurely pace along the same track as far as Peak Two, where we lunched and spent over an hour in what one member dubbed 'tree-fern heaven'. Every view across the plateau of this, the second highest peak in the group, or down the steep approach slopes, revealed numerous *Cyathea sagittifolia*. On the slopes there were many single-stemmed tree-ferns whose trunks, perhaps ten centimetres in diameter, seemed too narrow to be able to support their great height. On the plateau many of the tree-ferns had multiple stems arising from a common base, with an occasional branching trunk; this habit may be the result of damage from a hurricane in earlier years. Although it was not possible to verify the identities of the tallest specimens, no cyatheas other then *C. sagittifolia* were identified on this peak. The climbing ferns *Polybotrya osmundacea* and *Salpichlaena volubilis* festooned many of the hardwood trees, together with multiple small climbing polypodiums, whilst lianas hung down from the canopy and bromeliads were everywhere. Almost all tree boles were home to one or more *Trichomanes* species, *T. crispum* being the most common.

On our return through the lower montane forest we found many delightful spots with an abundance of fern species. Yvonne pointed out *Asplenium cirrhatum*, whose elongated frond tips root to form daughter plants without bulbil formation. Within five metres were arboreal specimens of the rather skeletal *Polypodium loriceum*, small climbing polypodiums, two *Danaea*, *Cnemidaria* and numerous filmy ferns with three *Trichomanes* species intermingled on a single tree trunk!

Remarkably, both groups arrived back at the vehicles at the same time, both with their indelible memories of the delights of this trail.

National Herbarium of Trinidad & Tobago (Wednesday 14th) **Yvonne Golding & Graham Ackers**

After our strenuous trip to Cerro del Aripo the day before, some of us hobbled into the herbarium for a quiet morning devoted to identifying some of the material we had gathered over the previous few days. Personally, I (Yvonne) had become fascinated by some pteridophytes that quite honestly looked like angiosperms; sometimes only the tell-tale pattern of sporangia on the underside of leaves identified these plants as ferns. Examples were some *Tectaria* species, *Hypoderris brownii*, a magnificent fern, and *Thelypteris poiteana*, which looks nothing like our British thelypterid beech fern!

Inspecting the herbarium material conveyed to us much more information than the literature we were using, and in some ways it was a pity that we were unable to make more use of the herbarium, but our schedule was fairly hectic! As well as checking ferns, we were able to inspect other departmental reference material, especially books and maps. Also, thanks to the staff in the herbarium, we fortified ourselves with coffees and lunch.

Site 8, Caroni Bird Sanctuary (Wednesday 14th) **Yvonne Golding**

In the late afternoon we took a trip in a flat-bottomed boat through the Caroni Swamp, which is situated just south of the capital, Port of Spain. This area (6,000 hectares or 15,000 acres) is protected and designated as a bird sanctuary; 157 species of bird are to be found here. Our boatman was very knowledgeable and had a keen eye, identifying birds as they flew over and spotting animals hidden in the mangroves. He stopped near a clump of fern but we were unable to identify it from the boat (later deliberations led to the conclusion that it was *Blechnum serrulatum*).

On the way out to the main lagoon we saw the three species of mangrove with mangrove oysters and crabs living on the tangled mass of stilt roots. We saw two Cook's tree boas, one filling a hole in a tree and one coiled on a branch above us. These boas, although reaching five to six feet, are harmless, to humans at least. Our boatman showed us numerous different birds before mooring by a vegetated island, where we sat and waited for the 'floor show' to begin. People travel the world to see flocks of scarlet ibis come to roost in the trees of the Caroni Swamp. They fly 40 miles every night from the Venezuelan mainland to find sanctuary here. The brilliant scarlet colour is derived from carotenoids found in the crustaceans on which the birds feed. Along with the ibis come flocks of snowy egrets skimming the surface of the lagoon. It is a magnificent sight guaranteed to melt the heart of even the most fervent ferner; it was truly a reflective moment.

By this time it was getting dark and our boatman expertly navigated the canals back to the landing stage. In the light of his floodlight we had an unexpected sighting of a caiman, five to six feet in length, floundering near the bank in the wash of the boat. A pretty exciting finish to what was an unforgettable trip, despite the lack of ferns.

Site 9, North Oropouche (Thursday 15th) **Pat Acock**

photo: R.G. Ackers

Paul Ripley beside *Cnemidaria spectabilis*, North Oropouche, Trinidad

Restored by the previous day's lighter exertions we travelled to the east of the Northern Range, where the final part of our minibus ride was made more exciting by the recent extraction of gravel; the passage of large lorries had broken off one side of a bridge and caused considerable damage and muddying of the access road. As soon as we left the vehicles, *Pityrogramma*

calomelanos was spotted. The seasonal evergreen forest on limestone was a very different ecosystem from that which we had experienced before, and besides a few plants common to other habitats we soon started picking up a few new ones for the week. The most unusual one was *Metaxya rostrata*, small juvenile plants of which were initially speculated by a number of us to be spleenworts. When we reached the river we found the unusual spleenwort that lives mostly submerged, with occasional fertile fronds produced when the water level drops, *Asplenium obtusifolium*.

Many now took the opportunity of a swim in a small pool in the river. After lunch Martin showed us a fallen tree, straddled across the river and under which many of us had swum, which had a marvellous collection of epiphytes including *Elaphoglossum herminieri*, *E. rigidum*, *E. pteropus*, *Oleandra articulata* and a few polypodiums and *Trichomanes*.

photo R G. Ackers

Pat Acock with *Gleichenia remota*, North Oropouche, Trinidad

Retracing our steps and approaching the cars, we encountered a man who thought that we might have some influence with the government. He was farming the area and the gravel extraction butted right up to his land. We explained that we were powerless to help but sympathised with his position. Whilst waiting for the rest of the team to join us one or two of us looked at the damage the extraction was causing and were able to approach one of the palms, normally deep in the forest, to find it had *Polypodium triseriale* in its crown, with a *Microgramma lycopodioides* and many plants of *Vittaria lineata* on the trunk.

Site 10, Asa Wright South of the Col, & Site 11, North of the Col (Friday 16th) Martin Rickard

This was a day set aside as spare time, but such was the appeal of the beautiful Trinidadian forests and their ferns in particular that the vast majority of our party opted for a day largely like its predecessors. After an early start our minibus took us up to the Asa Wright bird sanctuary. This is a residential centre set deep in the steep forested hills, with terraces overlooking magnificent views and with a wonderful array of birds continually flitting in and out of view. Half the party decided to stay here for a couple of hours while a small group of the most hard-headed fern enthusiasts (Pat Acock, Andrew Leonard, Paul Ripley and I) set off up the road examining the fern-festooned banks. Until we reached the col we were in full sun on the south side of the Morne Bleu Ridge, but ferns abounded. Most were by now becoming familiar friends (even if we could not remember all their names!) but one new to me on the island was *Phlebodium aureum*, more familiar as a houseplant in the UK. Once over the col the flora changed; various filmies were common, e.g. *Trichomanes pinnatum* with its bulbiferous tip, *T. osmundoides* with erect sporing fronds strangely reminiscent of *Blechnum spicant*, *T. crispum* with pinnate fronds not unlike *Polypodium vulgare*, and *T. diaphanum* mimicking *Hymenophyllum tunbrigense*. To me, the Hymenophyllaceae were the jewel in the

Trinidadian fern crown – all were beautiful and fascinating. Other interesting species seen were *Oleandra articulata*, *Dennstaedtia obtusifolia*, *Polypodium polypodioides*, *P. triseriale*, *Danaea alata*, *D. nodosa* and *Elaphoglossum rigidum*, to name but a few.

All too soon the bus arrived to pick us up and reunite us with our bird-watching colleagues. We drove on down the extremely narrow lane from the col at little more than snail's pace, slow enough to wish we were walking but too fast to identify the goodies as we passed. Eventually we arrived at the coast for a late lunch and another diversion from ferning – a bathe in the Caribbean from a sandy, palm-fringed beach at Maracas Bay. Great – except that our visit coincided with a prolonged tropical cloudburst! After lunch we drove on round the mountains, noticing *Acrostichum aureum* from the minibus, to make a brief shopping stop in Port of Spain before returning to the hotel.

Site 12, Soho Caves (Saturday 17th) **Andrew Leonard & Paul Ripley**

photo: J.M. Ide

Outside The National Herbarium of Trinidad and Tobago

Standing: Paul Comeau, Pat Acock, Bolapersad Rampartap (aka Jeewan), Adrian Hailey, Denis Beresford, Jane Albert, Martin Rickard, Frank McGavigan, Yasmin Baksh-Comeau, Roland Ennos, Lesley Williams, Michael Hayward, Elise Knox-Thomas, Paul Ripley, Jennifer Ide, Yvonne Golding
Kneeling: Peter Harris, Winston Johnson, Dan Juggernauth, Natasha Mohammed, Reginald Potter, Andrew Leonard, Graham Ackers

We had to get up for an early breakfast so we could get to the university for a quick group photograph. This was a popular day as we were joined by about 15 locals, making this our largest party of the excursion. We left the university at 8.20 a.m. and set off in one minibus and five cars. The condition of the local road near the start point was too bad for our driver to take his minibus, so the British contingent had a half hour walk uphill in the searing heat to meet the locals who had the courage to drive their cars over the potholes. Shortly afterwards the heavens opened and we set off along the main trail in a tremendous downpour that continued for the next hour. We started to walk uphill through the mud in a forest, the ferns getting increasingly exotic as we proceeded. After 90 minutes we came to an area with large limestone rocks. This was our first encounter with a limestone area and there were many interesting and new ferns to find, including some beautiful aspleniums. Other highlights included, surprisingly, *Didymochlaena truncatula*, *Hypoderris brownii*,

several large tectarias and a number of *Diplazium* species. After another 60 minutes, the party being somewhat separated, some of us sat down to have lunch.

Afterwards we set off again and found the most extraordinary fern of the whole excursion, the giant *Pteris gigantea*. Looking like tree-ferns without a trunk, they had fronds up to three metres in length. After a few false starts, our group eventually found the caves that we were looking for. Emanating from one cave were the most fearful cries created by the resident oil birds. Locals say these are the spirits of their ancestors calling. A few of us descended into the cave. It was like entering hell, pitch black except for our torchlight, the ground covered in guano and strange white seedlings that the birds had brought back from their night-time forays. Deep inside the cave the birds, in some panic, flew about our heads as attempts were made to photograph them. The torch of one of the locals failed and we were left in total darkness before the other local managed to find his torch. We made our way slowly back to the cars, where we all met up again and found that one group had made the difficult journey all the way to the better-known Soho Caves. Trekking in these forests is hazardous – tracks become obscured very quickly. Keeping up with our guides as they blazed their trial was imperative. Another of our groups unfortunately did not find any caves.

On our way home, we stopped at the university to make presentations to two of our most excellent guides – Dan and Winston. This was the first night we were too tired and dirty to identify ferns before going to bed.

Site 13, Maracas Valley (Sunday 18th) **Frank McGavigan & Michael Hayward**

This was our final day and by popular demand due to be a leisurely one. In the morning we visited Judith Procope's garden to see ferns in a tropical garden context. For many years Judith led the Trinidad and Tobago Horticultural Society delegation to Chelsea, winning several gold medals. Hers is not specifically a fern garden but she uses ferns liberally both as highpoints and background to her stunning display of tropical plants. Enormous hanging baskets of *Platycerium*, *Davallia*, and *Phlebodium* are strategically placed under trees and other shady places. As in many tropical gardens, various *Nephrolepis* species, with fronds over a metre in length, thrive as 'fillers' in the borders, and in a small formal pond by the house she has a floating fern (*Salvinia*). After a hectic week of fern hunting in the wild this was our only opportunity to see cultivated ferns in a domestic setting, and a very relaxed and pleasant visit it was.

Not so relaxed, was our afternoon trip to Maracas Falls. We added considerably to the distance we had to walk in the afternoon sun by believing an astute, entrepreneurial ten year old who said that the road was impassable for vehicles and we would be better to park at his house for a fee of $10TT. One had to admire his cheek.

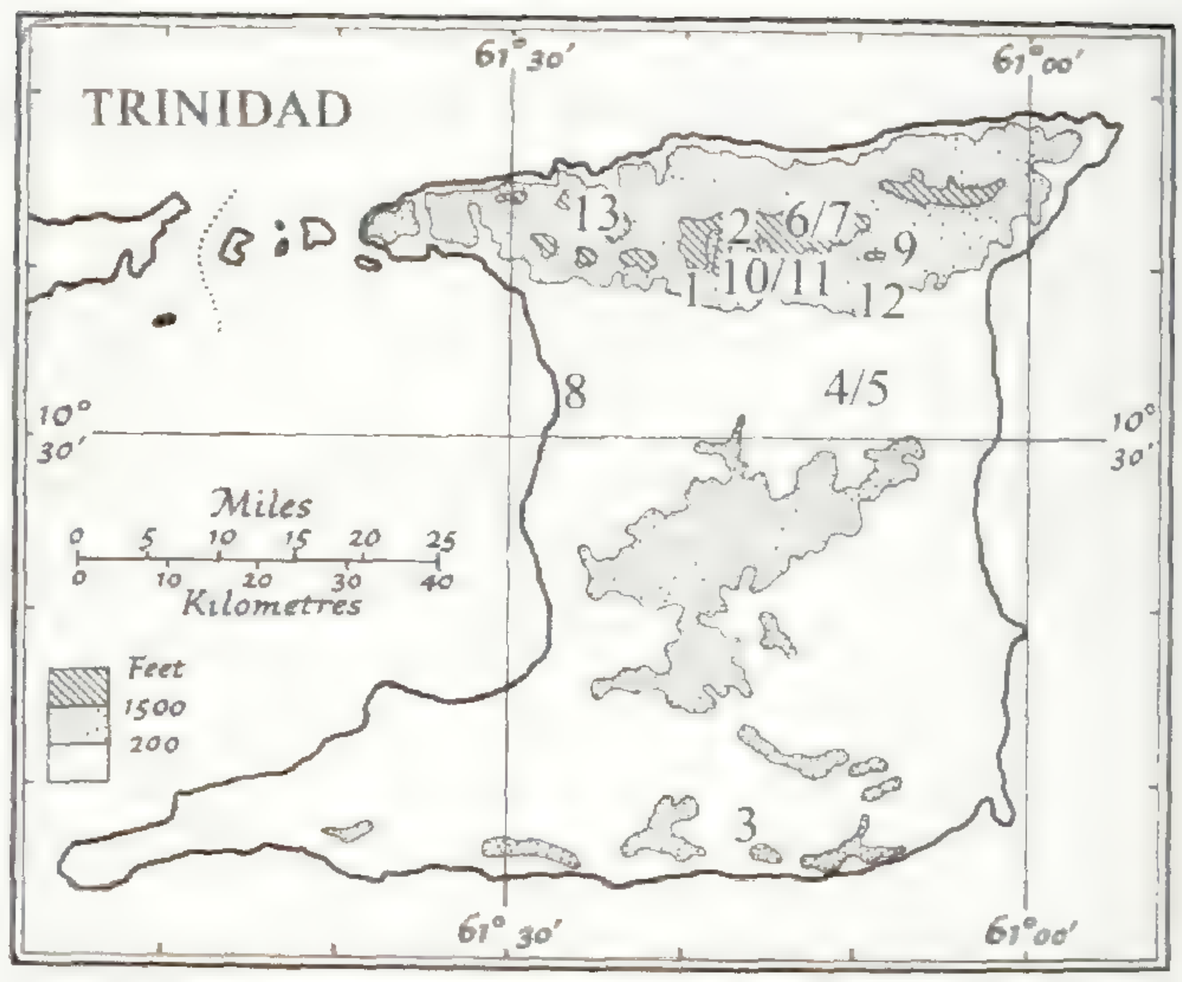
The walk to the Falls was uphill all the way, hot and sticky, and not particularly ferny by Trinidad standards but adiantums, selaginellas and *Blechnum occidentale* were common by the roadside. The first new fern to be found, on the steep rocky bank by the upper part of the track, was the diminutive *Hemionitis palmata*. Overlooked at first, it proved to be quite common when we got our eyes in. After much searching, the delicate *Blechnum gracile* was also found in these banks. There was a notable absence of *Cyathea* from the upper woods, probably the result of harvesting for the orchid compost trade in past years from this readily accessible site but a few *Cnemidaria spectabilis* with very short trunks were found.

As we reached the falls, an open hillock covered by the tall-growing *Selaginella plana* was an impressive sight. The view of the waterfall itself was quite magnificent. At 95 metres high and with the water volume not yet diminished by the oncoming dry season the sight was spectacular. *Asplenium monodon* was found around the basin of the falls. One of Trinidad's many religious cults was holding a small ceremony but seemed to have no objection to being joined in the water by the BPS, perhaps recognising a fellow minority group.

Concluding remarks Graham Ackers

Excursions such as these always provide a number of lasting memories, and for me I think the most prominent were:–

- Trinidad is a very dynamic place with very busy main thoroughfares, and as strangers we were grateful to have the services of a minibus driver and local cars.
- Having been on many BPS field excursions over the years, I think I can say that some of the trails in Trinidad were the most difficult I have experienced, with steep climbs and mud baths being the norm (scrambling on all fours was not unknown!). Frequent rains and the heat/humidity did not help, although biting insects were less of a problem than we might have expected.



Sites visited during BPS Trinidad trip, 2004

- The ferning was fantastic! We saw many more than one could expect to see on an average BPS excursion, representing very good value (for an overseas excursion, costs were quite modest).
- The evening fern identification sessions on the veranda of the Pax Guest House were lively affairs, with specimens and opinions seeming to fly all over the place, putting me in mind more of a trading floor of a commodities market than deliberations by members of a learned society!
- It was very pleasant having the company of local naturalists on some excursions, and personally I was particularly pleased to be able to meet Victor Quesnel who has done so much to promote the value and wonders of the natural world in Trinidad.
- The logistics worked extremely well, and grateful thanks are due to Yasmin and Paul Comeau, Winston Johnson and the other members of Yasmin's herbarium staff, our two extremely fit guides Dan and Edmund, our minibus driver Jeewan, and party member Frank McGavigan, who borrowed his sister-in-law's car to help with the transport. Thanks also to the managers of the Pax Guest House, Gerald and Oda, for making our stay so enjoyable and furnishing us with fine meals.

Notes on the fern species table **Graham Ackers & Martin Rickard**

The species list that follows was prepared by Pat Acock (many thanks Pat!) from all of our records. To most of us the tropical fern flora was a new experience. Many identifications were done during the evening sessions using Mickel, 1985. An indispensable guide but not a comprehensive flora, it does not illustrate all species, nor does it give full keys. In many cases we were able to check doubtful taxa with Yasmin, but time did not allow all our records to be checked. Particular difficulties were encountered with adiantums, thelypterids, and cyatheas (fronds difficult to reach). Unlikely records should therefore be treated with caution and should not be taken as necessarily having been verified by Yasmin.

As mentioned earlier, in her checklist (Baksh-Comeau, 2000) Yasmin recognises 302 ferns as occurring in Trinidad and Tobago, and we have listed 148. Names are as per Yasmin's checklist, with names used by John Mickel in brackets where the genus and/or species differs or was absent from Yasmin's list. *Pteris ensiformis* 'Victoriae', noted at Site 12, does not appear in either list and had presumably escaped from cultivation.

REFERENCES

Baksh-Comeau, Y.S., 2000. Checklist of the Pteridophytes of Trinidad & Tobago. *Fern Gaz.* 16(1,2): 11-122.

Jermy, A.C., 1985. Cytotaxonomic studies of the ferns of Trinidad. 1. The climate, geology, and vegetation of Trinidad with particular reference to the ecology of ferns. *Bull. Br. Mus. nat. Hist. (bot.)* 13 (2): 133-147.

Mickel, J.T., 1985. *Trinidad Pteridophytes*. The New York Botanical Garden.

Proctor, G.R., 1977. In: Howard, R.A. (Ed.) *Flora of the Lesser Antilles* Vol.2: *Pteridophyta*. Arnold Arboretum, Massachusetts.

Ferns seen during Trinidad BPS Tour 2004

Site 1: Mount St Benedict
Site 2: Morne Bleu
Site 3: Moruga Bouffe
Site 4: Aripo Savanna
Site 5: Marsh Forest
Site 6: Cerro del Aripo to Peak 2
Site 7: Cerro del Aripo to Peak 5
Site 8: Caroni Bird Sanctuary (no column in table)
Site 9: North Oropouche
Site 10: Asa Wight South of the Col
Site 11: Asa Wright North of the Col
Site 12: Soho Caves
Site 13: Maracas Valley

Numbers, not X:
1: *Lindsaea guianensis* found by Mike16/1
2: *Acrostichum aureum* on North Coast 16/1
3: *Pteris vittata* in village from coast 16/1
4: *Blechnum serrulatum* on road between 2 sites 12/1
5: *B. serrulatum* also at Site 8, Caroni Bird Sanctuary

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 9	Site 10	Site 11	Site 12	Site 13
	09 Jan.	10 Jan.	11 Jan.	12 Jan.	12 Jan.	13 Jan.	13 Jan.	15 Jan.	16 Jan.	16 Jan.	17 Jan.	18 Jan.
Acrostichum aureum										2		
Adiantopsis radiata	X											X
Adiantum latifolium	X	X					X		X		X	
A. lucidum	X		X									
A. macrophyllum	X		X									X
A. obliquum			X	X					X			X
A. petiolatum							X		X			
A. polyphyllum			X									
A. pulverulentum	X		X									
A. serratodentatum		X										
A. tetraphyllum							X	X			X	X
A. villosum	X		X									
Anemia pastinacaria	X											
A. phyllitidis	X											
Anetium citrifolium											X	
Asplenium cirrhatum (A. acutiserratum)		X				X						
A. cristatum											X	
A. cuneatum											X	
A. monodon (A. auritum)								X	X			X
A. obtusifolium								X				
A. serratum			X								X	
Blechnum gracile (B. fraxineum)												X
B. occidentale	X	X				X	X		X			X
B. serrulatum 5				4	X							
Blotiella lindeniana (–)							X					
Bolbitis portoricensis	X											
Campyloneurum phyllitidis (Polypodium)					X							
Cnemidaria spectabilis		X				X	X	X	X		X	X
Cyathea microdonta		X		X		X	X	X	X		X	
C. microphyllodes								X				
C. pungens		X					X				X	
C. sagittifolia		X				X	X					
C. surinamensis (C. hirsuta)				X				X				
C. tenera		X										
Cyclodium meniscioides									X		X	
Cyclopeltis semicordata	X		X									X
Danaea alata (D. fendleri)						X		X		X	X	
D. leprieurii (D. elliptica)		X						X				
D. nodosa						X	X			X		
– (Dennstaedtia globulifera)											X	

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 9	Site 10	Site 11	Site 12	Site 13
Dennstaedtia obtusifolia										X		
Dicranoglossum desvauxii			X								X	
Dicranopteris pectinata		X				X	X	X				
Didymochlaena truncatula											X	
Diplazium centripetale							X				X	
D. cristatum							X		X		X	
D. grandifolium											X	
D. hians											X	
– (D. l'herminieri)						X				X		
E. boryanum						X	X					
E. crinitum						X	X					
E. herminieri								X				
E. lingua		X				X	X				X	
E. longifolium		X				X						
E. pteropus								X			X	
E. rigidum						X	X	X	X	X		
Gleichenia remota		X				X	X	X				
Grammitis linearifolia (Cochlidium)		X										
G. mollissima						X	X					
G. serrulata		X										
G. taenifolia							X					
G. taxifolia		X				X	X				X	
Hemionitis palmata												X
Hymenophyllum hirsutum		X				X						
H. polyanthos						X		X			X	
Hypoderris brownii						X		X	X		X	X
Hypolepis repens		X				X	X					
Lastreopsis effusa	X											
– (Lindsaea guianensis)	1											
Lindsaea lancea		X			X	X	X	X	X			
L. stricta var. parvula					X							
L. stricta var. stricta				X					X			
Lomariopsis fendleri						X				X	X	X
L. japurensis											X	
Lycopodiella caroliniana (Lycopodium)					X							
L. cernua (Lycopodium)				X	X			X	X			
Lygodium venustum	X		X	X								X
L. volubile	X							X	X		X	X
Macrothelypteris torresiana (Thelypteris)		X					X	X	X			
Megalastrum subincisum (Ctenitis)											X	
Metaxya rostrata								X				
– (Microgramma acatellela - as Polypodium)		X	X								X	
Microgramma fuscopunctata (Polypodium)							X					
M. lycopodioides (Polypodium)		X		X	X		X	X		X	X	
M. reptans (Polypodium ciliatum)				X								
M. vacciniifolia (Polypodium)				X								
Nephrolepis biserrata	X	X		X			X	X	X			
N. rivularis		X					X	X		X	X	
Niphidium crassifolium (Polypodium)			X									
Oleandra articulata								X		X		
Olfersia cervina		X										
Phlebodium aureum (Polypodium)		X							X			

	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 9	Site 10	Site 11	Site 12	Site 13
Pityrogramma calomelanos	X		X	X	X				X	X		X
Pleopeltis astrolepis (Polypodium)						X	X		X		X	
Polybotrya caudata											X	
P. osmundacea		X				X	X			X	X	
P. serratifolia											X	X
Polypodium dulce (P. sororium)											X	X
P. loriceum		X				X	X					
P. polypodioides	X				X				X	X	X	X
P. triseriale						X	X	X		X		
Pteris ensiformis 'Victoriae'											X	
P. gigantea											X	
P. tripartita											X	X
P. vittata	X									3		
Saccoloma inaequale							X			X		
Salpichlaena volubilis		X				X	X	X				X
Schizaea elegans	X											
Selaginella diffusa										X		X
S. hartii								X				
S. muscosa			X									
S. plana				X								X
S. viticulosa		X										X
Tectaria heracleifolia	X									X	X	
T. incisa	X	X	X			X	X		X		X	X
T. plantaginea											X	
T. trifoliata		X									X	X
Thelypteris decussata							X					
T. dentata			X									
T. glandulosa								X				
T. hispidula		X	X				X					
T. leprieurii		X										
T. macrophylla								X				
T. patens							X	X				
T. paucijuga			X								X	
T. pennata			X									
T. poiteana			X							X	X	
T. reptans											X	
T. serrata			X									
T. tetragona	X		X									
Trichomanes crispum		X				X				X		
T. diaphanum (T. hymenophylloides)		X				X	X		X	X	X	X
T. elegans		X				X	X				X	
T. kapplerianum		X									X	
T. krausii		X										
T. membranaceum											X	X
T. osmundoides						X	X			X		
T. pinnatum	X			X				X	X	X		X
T. polypodioides		X				X	X	X				
T. rigidum						X						
T. trigonum var. fimbriatum (T. superbum)		X										
T. trigonum var. trigonum						X	X					
Triplophyllum funestum (Ctenitis protensa)	X	X					X					
Vittaria graminifolia		X										
V. lineata (Antrophyum)								X				

NEW FOREST, HAMPSHIRE – 12-13 June

Michael Hayward (Saturday) & Leonard Winning (Sunday)

Eleven members met on the outskirts of Southampton under a rather overcast sky to explore Lord's Wood, a mixed coniferous and deciduous plantation of over 50 hectares just south of the M27 (41/398160). *Pteridium aquilinum* on the outskirts of the wood soon gave way to the dominant ferns, *Dryopteris carthusiana*, *D. dilatata* and many *Athyrium filix-femina*, including plants with deep red stipes. The prime object of our search in the woods was the delicate *Equisetum sylvaticum* and a number of colonies were soon found. Leaving the woods, which are under threat from proposed development of a new campus for the University of Southampton, we explored a small stream with lightly wooded banks by Beaulieu Close, one kilometre south of Lord's Wood. Brushing aside the brambles and nettles we found the large colony of *Equisetum hyemale*. Many stems were topped with the classical 'crown' of teeth shed from the sheaths as the stem grows. It was interesting to compare plants of garden-centre origin later in the day, and there was unresolved discussion about the true identity of the commercial plants, which never lose their sheath teeth.

The Dibden church car park (41/397087) yielded *E. arvense* and more *Pteridium aquilinum*, which from now onwards was a constant roadside feature of the heath and woodland of the New Forest. *Polypodium vulgare* grew high on the church wall. *Asplenium scolopendrium* and *A. trichomanes* subsp. *quadrivalens* were quite plentiful at lower levels. Dibden is the only recorded New Forest site for *A. ceterach*, which grows on a dwarf retaining wall opposite the church entrance. We found the wall now largely overgrown with ivy from the sloping ground above and only a single remaining plant of *A. ceterach* was found. A gardener in the church graveyard assured us that he would shortly cut back the ivy, so it remains to be seen whether on not the colony will recover.

The next stop was for lunch at a local pub outside Beaulieu. The sun was now shining brightly, remaining so for the rest of the weekend. On the wall separating Beaulieu church from the estate there is a large colony of *Polypodium cambricum* (41/388026). As last season's growth was very withered and the new season's growth had only just started, no sporangia were available to study, so the species status of the polypody had to be taken on trust. This is a site to visit later in the year. *Asplenium ruta-muraria* and *A. trichomanes* subsp. *quadrivalens* were abundant on the churchyard perimeter wall, together with a few *A. scolopendrium*.

Our next stop was the old airfield site on Beaulieu heath (41/350000). Here we were led by Andrew to the first patch of *Ophioglossum azoricum* that many of us had seen, and were forced to lie prostrate on the ground before the plants (to take our photographs of this miniature beauty). *Botrychium lunaria* has also been reported from the heath, but despite searching for 30 minutes we failed to find any.

It was by now clear that we were in for a feast of ferns and fern allies on this meeting and the next site did not disappoint. At Crockford Bridge (40/350990) there is a small clear stream meandering across the heath with a number of shallow pools with wooded margins on the south-eastern side. In the heath by the car park, amongst many small orchids, was a further colony of *O. azoricum*. As well as the many fertile spikes, we soon came to recognise the typical small leaves of non-sporing plants, frequently sited as pairs facing one another. Two metres from the *O. azoricum* colony were typical larger plants of *O. vulgatum*! This led to much counting of the pairs of sporangia on the fertile spikes, 14 or more pairs confirming *O. vulgatum* and ten or less pairs *O. azoricum*; it is very difficult to distinguish between the two species on the basis of leaf size, shape and disposition alone, small plants of *O. vulgatum* often mimicking *O. azoricum*.

Skirting the woodland between the car park and the stream we found *Equisetum telmateia* and *E. arvense*. Growing in 10-20cm of water in the pools beside the stream were many plants of *E. fluviatile* with its drinking-straw-like stems that collapse when gently squeezed. In the mud beside the stream, trampled with hoof prints of the New Forest ponies, was a colony of *Pilularia globulifera*, many 'pills' clearly visible to the naked eye on the surface of the mud, with further colonies later found by the ponds upstream. Many varieties of damselfly and a few dragonflies flitted over the stream and shoals of small fish were seen. On the far bank of the stream, by the bridge, was the fourth *Equisetum* for the site, *E. palustre*.

Next was a brief stop in Warborne Lane, Boldre (40/335975), where a number of large *Polystichum setiferum* lined the banks of the narrow lane. Large plants of *Asplenium adiantum-nigrum* grew in shade on the opposite bank, together with a few buckler ferns. Of particular interest was a very large polypody growing on a wall in the lane. There was discussion as to whether this was a hybrid, but no firm conclusions were reached.

The final site was Spinners Garden (40/325978), where we were given a conducted tour by the very knowledgeable Kevin Hughes. The one hectare woodland garden, on a slope overlooking the Lymington River, was full of quality planting. We concentrated on the many British and foreign ferns and there was much discussion about the provenance of some of the large blechnums. Kevin told us that his large *Dicksonia antarctica* specimens, sheltered by the woodland, are given no extra protection during the winter and survive unscathed. Several members were later tempted by the choice plants for sale in the nursery section of the garden. More members were tempted back to tea and cakes at the house of Ashley and Jo Basil, where we also enjoyed the good company and the ferns in the garden.

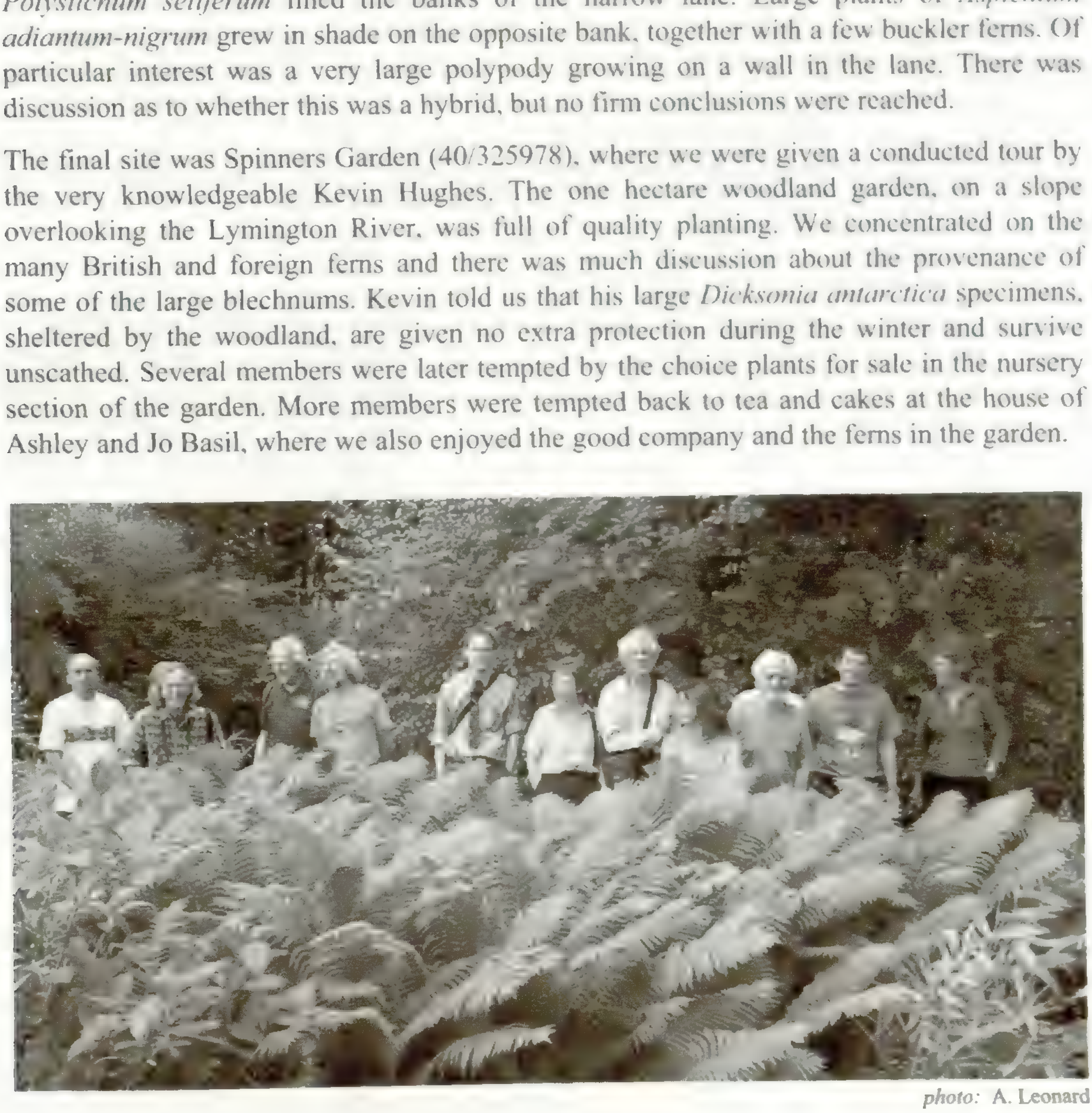


photo: A. Leonard

Spinners Garden, New Forest

Jurgie Schedler, Ashley Basil, Howard Matthews, Patrick Acock, Leonard Winning, Alison Evans, Michael Hayward, Jo Basil, Graham Ackers, Kevin Hughes, Ann Robbins

After tea we dispersed in various directions, a small hardy group being led by Andrew Leonard to Beaulieu Road Station, where we walked for a further hour in the evening sun amongst the sundews, bog asphodels and cotton grass of the heathland. *Lycopodiella inundata* has been reported from this area but despite our best endeavours we failed to find any, finally retiring to the local pub for our evening meal after a remarkable day's ferning.

Sunday morning was warm and bright, and the group met under gorgeous blue skies at Wilverley Inclosure (41/245005) amidst the mixed aromas of firs and bracken. We followed a trail down to the bottom of the valley, occasional *Dryopteris carthusiana* and *D. dilatata* interrupting the otherwise continuous bracken. Following a small stream southwards along the valley we saw *Blechnum spicant* and *Oreopteris limbosperma*, both growing in abundance along the shaded banks. Also common were *Dryopteris affinis* subsp. *affinis* and *D. carthusiana*, with occasional *Athyrium filix-femina*. One particular patch of *Dryopteris* aroused interest and after some discussion was thought probably to be *D.* x *deweveri*. We continued to follow the stream, our walk made more interesting by the continual obstacles of fallen trees, vigorous bracken and small tributary channels, until we eventually found a healthy patch of *D. aemula*.

Proceeding out of the valley we came to Wootton Coppice (41/240003), a knee-deep bog, which explained our leader's change from flip-flops to Wellingtons that morning, the necessity of which he neglected to promulgate in advance! The whole area was extremely wet, as some of the party discovered, but making use of a fallen silver birch we were able to get into a magnificent colony of *Osmunda regalis*. Fertile fronds were found in such abundance that some members of the party found themselves choking as they brushed past. We returned to our starting point via a different route, gently climbing the hillside and examining more *D. affinis*. Much debate was entered into, but the general conclusion was that it was all subsp. *affinis*.

After our hearty walk we were fortified by a cream tea lunch at the Station Tea Rooms, followed by a stroll along part of the dismantled railway line, where *Asplenium ruta-muraria* and *A. scolopendrium* were seen growing on the remains of the platform. A further exploration in the adjacent Holmsley Inclosure (41/230004) revealed an extensive colony of *Thelypteris palustris*.

Returning to the cars, we began moving northward along the Lyndhurst Road, stopping at Warwick Slade (41/270065) to see *Ophioglossum azoricum*. On entering through the gate we were immediately delighted to find a very well developed (*c.*10cm high) *Ophioglossum*, apparently *O. vulgatum*. However, we moved on further into the slade to see 'the site' at our leader's insistence. We found a large number of *O. azoricum* distributed around the edge of a grassy clearing, the diminutive stature of these curious ferns once again reducing the party to various indecorous postures in attempts to get that perfect photograph!

photo. M. Hayward

Ophioglossum azoricum
in the New Forest

We continued north to James Hill, pausing momentarily at the New Forest Reptile Centre – a detour that proved to me that it's not just small ferns that are difficult to spot amongst crowded vegetation. From James Hill car park we walked to Wood Crates, detouring to see a woodland clearing full of *Oreopteris limbosperma*. Andrew led us into another bog (though not as wet as the *Osmunda* site), this time to see abundant *Phegopteris connectilis*, growing freely besides the winding stream (41/270084). We returned back up the hill and headed towards the final site, though only progressing 200 yards before getting sidetracked for refreshments. Suitably refreshed, we continued to Shave Wood (41/295125), ending the meeting in the same style as it had begun, with equisetums – this time seeing *Equisetum* x *bowmanii*.

Thus greatly educated in the New Forest pteridophyte flora, the group dispersed, but not before thanking Andrew for a most enjoyable and interesting meeting.

ISLES OF SCILLY – 25-28 June

Ian Bennallick

(Organisers: Ian Bennallick & Rosemary Parslow)

A few BPS members met up early on the Friday morning at Newlyn Harbour to catch RMV Scillonian III to travel from Penzance to St Mary's in the Isles of Scilly. A few had already stayed overnight in Penzance and had explored the town walls for various ferns. Whilst queuing for the boat a few *Asplenium marinum* could be admired on the quay wall. Pat and Grace Acock, Andrew Leonard, Christine Mullins, John Edgington, Ian Bennallick and Jonathan Crowe soon found each other and settled on taking the trip on the top deck of the ferry, exposed to what the elements could throw at us! Thankfully the weather was sunny and calm. After only a couple of hours the islands came into view, a low, green and rocky archipelago surrounded by the bluest of seas and whitest of beaches. The Scillonian sailed through Crow Sound between the islands of St Martin's, famous for its white sand beaches and waved heath, Tresco, with its famous gardens, and St Mary's, the largest and most populated island.

Meeting us off the ferry in Hugh Town on St Mary's was our guide for the weekend, Rosemary Parslow, who has been the Botanical Society of the British Isles recorder for the islands for eighteen years, and has visited about half of the 150 uninhabited islands and islets, including about forty that have greenery on them! Once everyone had settled into their lodgings and guesthouses and had a quick lunch, we gathered in a small amenity garden in the town centre (00/90351053). The Scillonian party were joined by Mary Ghullam, Alison Paul, Bruce Brown, Adrian and Janet Dyer and Roger Golding. Rosemary gave the group a brief introductory talk on the history, climate, vegetation and idiosyncrasies of the islands. Whilst it is at first glance a very relaxed and laid back place to live, one soon notices the frenetic pace at which the locals live their lives, and drive their cars! The islands are heavily dependent on tourists, especially as the traditional industries of flower growing, particularly bulbs, and fishing are dwindling. Rosemary also gave us the bad news that due to the very dry spring (seven weeks with no rain), some of the ferns – the *Ophioglossum* species we had hoped to see – would probably not be visible.

We chose to walk along the harbour, admiring the stunning views north towards Tresco and St Martin's and noting *Asplenium marinum* on the sea walls. Our route took us through the Lower Moors Nature Reserve (00/912107), part of the Isles of Scilly Wildlife Trust reserves. Lower Moors is a low area of reed bed and coastal marsh only a few feet above sea level, and scrub clearance work by the Trust has meant that the marshes have been opened up, which has benefited the marsh plants. A few large clumps of *Osmunda regalis* were admired, as well as *Athyrium filix-femina* and *Polypodium interjectum* under the grey willow (*Salix cinerea* subsp. *oleifolia*) scrub. There is an old record of *Dryopteris carthusiana* for the area, but our brief look did not reveal any.

At the southern end of the moors we reached Old Town and Old Town Bay (00/914101), a broad crescent of sandy beach and rocky shore. Walking along the coast path at Porth Minick (00/ 917100) we stopped by a site for house holly fern, *Cyrtomium falcatum*, which was growing happily between granite boulders at the upper part of the beach. This naturalised population has been known for at least fifty years and it has been patronised by some of the brightest and best of Britain's botanists! A discussion over this particular species' ability to invade similar habitats in the Azores soon had us pondering whether it could become a pest here but the plants looked so battered and beaten it seemed unlikely in the near future. We continued along the cliffs past the end of the airport runway toward Salakee Down (00/925100). Several fine plants of *Asplenium marinum* were found between the rocks, with some having rather large fronds. The clouds were gathering – a portentous omen, as our quarry for the downs here was small adder's tongue, *Ophioglossum azoricum*. It usually grows in small damp hollows between the waved heath – undulating wind-

exposed ling, *Calluna vulgaris* – but due to the dry spring none was found, much to our disappointment. Carrying on towards the small inlet of Porth Hellick (00/925105) we passed some areas of *Pteridium aquilinum*-invaded heath, which had been recently managed by the IOSWT. Heavily rollers dragged behind a quad bike are used to crush the bracken stipes, thus weakening the growth. Burning and cutting are also used, but rolling seems the most effective. Over a number of years the work appeared to be reducing the vigour of the bracken, having a beneficial effect on the surrounding heath flora, with more diversity in the open areas. Rosemary had also noted that where tall bracken and trees had been cleared in recent years, *Polystichum setiferum*, considered a great rarity in recent decades, had appeared.

A short diversion was made up the lane towards Salakee (00/921106) to see a long-naturalised stand of Chilean brake, *Blechnum cordatum*, in a ditch under some elms. *Asplenium scolopendrium*, *Dryopteris filix-mas* and *Polystichum setiferum* were also found here. It should be noted that the vast majority of mature trees on the Isles of Scilly are elm, this being the tree to seemingly withstand the frequent gales and as yet unaffected by Dutch elm disease, which has so far not reached the islands. The elms were once thought to be English elm (*Ulmus procera*), which is absent in Cornwall (Cornish elm, *U. minor* subsp. *angustifolia*, is the common elm there) but recent material examined has almost all proved to be *U.* x *hollandica*.

Taking the route back towards Hugh Town we passed along the typically Scillonian granite walls (00/918109) that held many plants of *Asplenium obovatum* subsp. *lanceolatum* as well as *A. adiantum-nigrum* in places; although possible hybrids were looked for, none was found.

Meeting mid-morning on Saturday, the group took one of the launches to arguably the most enigmatic of islands, St Agnes. Separated from the other islands in the archipelago by a deep and at times, very rough channel, St Agnes, being the south-westernmost inhabited island, feels the most isolated and is many people's favourite. It also has Scillies' only populations of *Ophioglossum lusitanicum*. This appears around Christmas-time each year and there were no chances of seeing it in mid-June, but it would usually have been possible to see *O. azoricum*. Admiring the smaller island of Gugh on the western side of St Agnes, tenuously joined by a tombolo, a mobile sand bar that the sea flows over at high tide, the group alighted from the boat. Walking up the small lane towards Higher Town (00/884084), many more plants of *Asplenium obovatum* subsp. *lanceolatum* and *Polypodium interjectum* were seen in the granite walls. Admittedly St Agnes is not a fern hotspot with only about a dozen fern species. However, to the visitor the pace of life and scenery more than compensates. Rosemary had managed to arrange a quick detour around a friend's bulb field, full of fruiting whistling jacks (*Gladiolus communis* subsp. *byzantinus*), to have a look for a few rare arable weeds. Small-flowered catchfly, lesser quaking-grass, small-flowered tree-mallow and toothed medick were seen but the only fern was bracken. This has invaded much of the Scillies where grazing has declined. The bulb-fields soon revert to bracken if left and some on St Agnes are no exception. Another striking feature on the Scillies is the way that exotic shrubby species, especially *Pittosporum crassifolium* from New Zealand, but also *Coprosma repens*, *Euonymus japonicus* and other species from temperate parts of the world are used successfully for shelterbelts. These shelter the small fields from the extremes of winter exposure. However, the stone-walled hedges are where ferns survive best. Due to their low profile and windy nature, the islands are also susceptible to higher levels of evaporation, so the abundance of ferns one gets in neighbouring wetter Cornwall is not apparent. Even though the Scillies are lacking in ferns, they are much more interesting genetically for what species are able to survive in the extreme conditions.

Luckily, the only extreme conditions the group encountered was a heavy mist, which soon cleared. On the southernmost tip of St Agnes, Rosemary showed the group the classic site of *O. lusitanicum*, on the heathland on Wingletang Down (00/8807) where John Raven discovered it in 1950. *O. azoricum*, which we had hoped would have been up was not seen, the areas where it grows having been browned to a crisp by drought. Lunch was taken sitting on a large rock overlooking the sea, beside a carn where a huge colony of *Asplenium marinum* was growing. A very pleasant walk around Horse Point and into Wingletang Bay gave some of the more intrepid a chance to look on Horse Point (00/882070) for what must be the most southerly British colony of *Asplenium marinum*. This was located! The bay had a very nice beach flora including sea kale, *Crambe maritima* and sea rocket, *Cakile maritima*, and the tiny allseed, *Radiola linoides*, was found on the path.

photo: I.J. Bennallick

Isles of Scilly, St Agnes, near Wingletang Down

Pat Acock, Janet & Adrian Dyer, Jonathan Crowe, Christine Mullins, Grace Acock, Alison Paul, John Edgington, Mary Ghullam, Andrew Leonard, Rosemary Parslow, Roger Golding, Bruce Brown

A quick stop was made for a cream tea at the Coastguard houses, accompanied by very tame house sparrows taking the crumbs off our plates. Birds are tame on the islands and it is not unusual to have song thrushes and blackbirds merrily feeding on the grassy paths only feet away. The group walked back to Porth Conger and the quay, via Big Pool (00/878086) near where *Ophioglossum vulgatum* had been recorded in the past. It was not found.

As the misty rain descended, we took the 'tripper' boat for a quick, but invigorating trip back across St Mary's Sound. This gave us an appetite that was again fully satiated by the Bishop and Wolf's hearty evening meals. Afterwards, Alison, Bruce, Christine and Ian walked around the walls of the Garrison to look for possible *Asplenium* x *sarniense* (*A. adiantum-nigrum* x *A. obovatum* subsp. *lanceolatum*) – Rosemary had already alerted us to the fact that there were intermediate-looking plants on the walls. The sun was rapidly but colourfully setting and the light diminishing, but a quick walk resulted in some material being collected for further analysis at the Natural History Museum.

Sunday's weather was better, despite shower clouds looming, and a visit to Tresco and a chance to explore the famous Abbey Gardens with exotic ferns and possibly *Ophioglossum azoricum* on Appletree Banks (00/893139) beckoned. After a gloriously bracing short boat trip to New Grimsby, dodging the short sharp showers and boat spray, we landed. Tresco sparkled in the intense sunshine, and on the road towards the garden the many unusual and exotic plants gave an air of otherworldliness to the place: familiar but unknown.

Through Abbey Wood we searched for (and found) *Dicksonia antarctica* and *Blechnum cordatum*. Pat had details of a mystery fern that had been seen in a clearing earlier in the year by another visitor and after a small search it was thought to be *Woodwardia radicans*. A fourth well established alien, spreading over the ground in the same area, was *Microsorum pustulatum* (*Phymatosorus diversifolius*). A record for *Dryopteris aemula* is known from Tresco and the shaded banks in Abbey Wood (00/892144) seemed to be the most likely place for finding it, but the habitat wasn't quite right. Native ferns recorded in the woods were *Dryopteris dilatata*, *D. filix-mas*, *D. affinis* subspp. *affinis* and *borreri*, *Osmunda regalis* and *Polypodium vulgare*.

In the gardens we had a quick snack and then just as we wanted to explore the gardens, a tropical downpour made us scatter for cover, some of us into the surreal shelter of Valhalla, the museum of ship's figureheads. We pressed on, passing some fine stands of *Blechnum cordatum*, and found the fernery (00/896142). The rain ceased and with true Scillonian character the bright sunshine returned and the sky cleared to a brilliant blue. Steam started rising from the garden. The quick, almost tropical changes emphasised the reason why the plants do so well in the garden. Hummingbird hawkmoths soon hovered around and the starlings and sparrows returned to feeding from the exotic green-flowered puyas and the phormiums. The group explored the rest of the gardens and slowly walked back to New Grimsby to catch the boat back to St Mary's.

photo: R. Parslow

Abbey Gardens, Tresco, Isles of Scilly

Roger Golding, Ian Bennallick, Andrew Leonard, Pat Acock, Alison Paul, Claire Roper, Mary Ghullam, John Edgington, Jonathan Crowe, Bruce Brown

The evening meal was had in Juliet's Garden, further along the coast at Porthloo, which has a lovely view back over the Harbour towards Hugh Town. On the way to the restaurant we stopped to admire a few plants of *Asplenium ruta-muraria* on the wall of Pat and Grace's lodgings, the only place where it grows on St Mary's. A delicious meal was followed by a vote of thanks to Ian and Rosemary for organising the weekend. On the way to or from the restaurant some of the group saw *Microsorum pustulatum* on a promontory near the lifeboat station.

The ferry to Penzance was leaving at 4.30 p.m., so Monday was a choice of either exploring other parts of St Mary's or relaxing. A smaller group decided to explore a further island, St Martins. Admittedly the island was not going to be a fern hotspot, but there was enough time to walk a fair part of the island and enjoy its charms. It is more wild and unspoilt than Tresco, less crowded than St Mary's and less exposed than St Agnes. It could be said to be the perfect island, and is certainly many people's favourite. On the way to the Daymark on Chapel Down (00/941160) in the eastern part of the island, a few walls had *Asplenium trichomanes* subsp. *quadrivalens*. The waved heath on Chapel Down was wind-clipped and the rocky outcrops around the cliffs were explored for more *A. marinum*. A quick look around the churchyard proved it to be fern-free but on meeting Andrew back at the quay, we learned that he had rediscovered *A. ruta-muraria* on a wall in Middle Town. This species is extremely rare on the Scillies. The party met back at Hugh Town in time to catch Scillonian III, and luckily the sea-state was smooth for the trip back to Penzance.

To make full use of the weekend, Ian had arranged for anyone who was interested to stop off in the evening on the route back home through Cornwall at the newly discovered *Cystopteris diaphana* site at Polbrock (20/01356950), south of Wadebridge. North of the bridge hundreds (probably thousands) of fronds were found for about one kilometre on the vertical faces of the bank of the River Camel, especially where there were tree roots. After paying homage to it, the remaining members left for their journeys home.

scan: A.M. Paul

***Aslenium* x *sarniense* from Hugh Town, St Mary's, Isles of Scilly**

The number of native species of fern on the Isles of Scilly is 26, with an additional six established alien species. The Isles of Scilly are not exactly a rich place for those pteridologists who like large numbers of species and plants, but due to the climatic conditions, exposure, soils and geology, they are extremely interesting for studying ferns 'living on the edge', and seeing why ferns grow where they do in this archipelago. To prove this was the confirmation from Alison and NHM colleagues that of the material collected on Saturday night, some proved to be *Asplenium* x *sarniense*. Although it was thought possible that it could occur in a place like the Isles of Scilly, this was the first time it has been found in Britain outside the Channel Islands. Surely it is now only a matter of time before it is found in Cornwall. A wonderful discovery to end a lovely, relaxing weekend.

GLASGOW AND SOUTH-WEST SCOTLAND – 17-19 July

Alastair & Jackie Wardlaw's Garden (26/544719) – (Saturday a.m.) Graham Ackers

The first event of this long weekend field meeting was a visit to Alastair and Jackie Wardlaw's garden in Bearsden, a suburb to the north-west of Glasgow. Several members of the party had spent the previous week at the Edinburgh conference 'Ferns for the 21st Century'. Whilst indoors, the weather had been fine, so it was a somewhat cruel irony that this outdoor activity should be accompanied by continuous rain, only varying throughout the morning in its intensity. However, this is what ferns enjoy, and the somewhat oceanic location of this garden doubtless contributes to the opulence of many of the ferns being grown.

Alastair greeted us by directing us to his greenhouse, where he handed out a most attractive and informative leaflet describing his NCCPG National Collection of British Ferns. Out of a possible total of 53 species, Alastair has amassed 52 (only *Ophioglossum lusitanicum* being absent), as well as a considerable number of hybrids and cultivars. These are all scattered around the garden in appropriate habitats, and Alastair is well known for his creativity in attempting to grow the 'difficult' British natives. For example, *Adiantum capillus-veneris*, *Asplenium obovatum* subsp. *lanceolatum*, *A. marinum*, *Hymenophyllum tunbrigense*, *H. wilsonii* and *Trichomanes speciosum* are all confined to small concrete boxes with plastic covers to maintain humidity and a more even temperature regime (all the boxes contained a thermometer). Some non-British ferns also receive similar treatment (e.g. New Zealand *Leptopteris* and *Hymenophyllum*), and one could not help noticing the rolls of bubble wrap by the shed awaiting winter deployment around the tree-ferns. These are also of particular interest to Alastair, who has a number of well grown specimens out in the garden (e.g. *Cyathea australis*, *Dicksonia antarctica*, *D. fibrosa*). Containing a number of less hardy potted ferns (e.g. *Blechnum colensoi*, *B. fraseri*) is a large circular-framed structure with corrugated plastic sides, which is obviously covered over in winter. But perhaps my favourite man-made habitat was the circular plastic sheath around the stipes of a *Dryopteris submontana* to emulate a limestone pavement gryke!

photo: F. McGavigan

Group at Alastair Wardlaw's garden

Graham Ackers, Andy MacGregor, Frank McGavigan, Jean & Kevin Robinson, Jerry Taylor, Paul Sharp, Bridget Laue, Carl Taylor, Heather McHaffie, Klaus Mehltreter, Alastair Wardlaw, John Mitchell, Robert Sykes, Martin Rickard, Adrian Dyer, Carol & John Mickel

Most of the ferns growing 'free' were in fine condition, and there were far too many to mention individually, but those that particularly struck a chord with me were a very fine *Polystichum lonchitis*, large (at least in cultivation terms) plants of *Osmunda cinnamomea* and *O. claytoniana*, and the rare (to me at least) ferns *Deparia pycnosora*, *Polystichum deltodon* and *Blechnum microphyllum*. All the ferns in the garden were displayed with the benefit of professionally produced plant labels.

The Wardlaws proved most hospitable hosts, with very welcome morning coffee, and a fine lunch-time buffet spread. We departed around 1.30 p.m., either for the next phase of the field trip, or to travel elsewhere. Apart from the BPS 'Brits', it was very pleasant to have some overseas members (from the Edinburgh conference) on this garden visit – John and Carol Mickel, Carl and Jerry Taylor and Klaus Mehltreter.

Culzean Castle (26/233103) – (Saturday p.m.) **Pat Acock**

On leaving Alastair's garden we had some very exact instructions to take us through the suburbs of Glasgow. They worked like a dream and we arrived at Culzean Castle almost on schedule. This beautiful building is set in many acres of woodland with some walled gardens but with time at a premium we certainly could not do the grounds justice.

Our contingent unfortunately lost a little time parking in the wrong car park, but in walking between the two we saw a number of spleenworts on the walls of the buildings: *Asplenium scolopendrium*, *A. trichomanes*, *A. adiantum-nigrum* and *A. ruta-muraria*, which interested our guests from overseas. We skirted the gardens in an attempt to join up with the rest of the party and walked in the woodlands where we were able to find *Dryopteris affinis*, *D. filix-mas* and some very good candidates for *D.* x *complexa*. A disturbance in the woods enabled us to locate the rest of the party. On retracing our steps towards the garden we discovered a group of *Dicksonia antarctica* of some age but despite hunting around we could not find any sporelings. In the walled garden on a rockery many interesting cultivars were spotted including a very fine *Dryopteris filix-mas* 'Linearis Polydactyla'. Below this, stretching to a wall some 50 yards away, were swathes of ferns such as *Onoclea sensibilis*, *Matteuccia struthiopteris* and other commonly grown cultivars and hardy aliens set out in large groups of the same fern which was really very effective. One strange item in the corner of the greenhouse was a single large plant of *Asplenium trichomanes* growing in the wood of the greenhouse frame.

We then had a long drive but it was made pleasant by the really lovely coastal scenery of this south-western corner of Scotland. We finally reached the Tigh na Mara Hotel at Sandhead, where eighteen of us later gathered to discuss the day's ferning and prospects for the next day.

Logan Botanic Garden (25/096428) – (Sunday a.m.) **Alastair Wardlaw**

The sign at the entrance road into Logan boldly asserts that it is 'Scotland's most exotic garden', a reasonable claim in my opinion. Located on the Galloway Peninsula 14 miles south of Stranraer, Logan benefits from several factors that together make it very special. As with the exotic gardens of Cornwall, Logan enjoys the warming influence of the North Atlantic Drift current, whose downside is winter gales. But Logan is well protected from wind, both by a tall stone wall enclosing the central area and by a thick shelter belt of trees outside. Through being managed by the Royal Botanic Garden Edinburgh (RBGE), Logan enjoys international research links. These include an active programme of growing a wide range of exotic plants, including ferns from spores. In 2003, the glasshouses at RBGE could no longer accommodate 18 trunked specimens of the South African tree-fern *Cyathea dregei* and they were sent to Logan for outdoor trialling. To see these as lawn specimens, growing vigorously after their first winter outside was one of the highlights of our visit.

A group of 15 assembled at 10 a.m. on a beautiful summer day for a three-hour conducted tour of the garden by Colin Belton, the Garden Supervisor. It is a shame that clichés like 'a riot of colour' are no longer acceptable, because that is exactly what we saw in the breathtaking display

of herbaceous plants and shrubs, such as diverse *Osteospermum* and *Echium nervosum*; all against a background of cabbage palms, eucalypts and tree-ferns. As for the latter, Logan has long been known for its assemblage of tall-trunked *Dicksonia antarctica* growing right out in the open, and long before RBGE acquired the garden in 1969. Under these tree-ferns was a dense monoculture of *Blechnum chilense* (syn. *B. cordatum*) labelled *Blechnum tabulare*, but which Colin Belton told us should now be called *B. violaceum*. Nearby we saw a genuine *B. tabulare* grown from South African spores, with leathery fronds in a rosette and starting to trunk. At the edge of the grove of *D. antarctica* was a single *Dicksonia fibrosa*, looking smaller and more restrained in its habit. Space and reader's patience does not allow a listing of all the exotic ferns at Logan, but fern enthusiasts should look out for *Woodwardia radicans*, *Polystichum falcinellum*, *Microsorum pustulatum* and *Pyrrosia rupestris*.

Outside the walled garden we strolled through the 12-acre woodland garden planted with exotic trees and shrubs. There we saw at least another dozen species of foreign ferns, including large specimens of *Lophosoria quadripinnata* from central and South America, *Thyrsopteris elegans* from the Juan Fernandez Islands and *Culcita macrocarpa* from south-west Europe and the Macaronesian islands. The tree-ferns in the dappled shade of this woodland were *Cyathea dealbata*, *C. australis*, *Dicksonia lanata* and *D. squarrosa*, as well as more *D. antarctica*. Our well spent morning ended with a lunch at the attractive salad bar in the garden and a purchasing of plants from the shop.

Photo: A.C. Wardlaw

Part of the autumn 2003 planting of *Cyathea dregei* at Logan Botanic Garden, in mid-July 2004

Dunskey Glen (15/995555) – (Sunday p.m.) **Andy MacGregor**

After taking our fill of foreign ferns at Logan Botanic Gardens, we made our way up to Dunskey Glen, just north of Portpatrick on the west coast. The Glen is a steep, wooded ravine linking the policies of Dunskey House to the sea, and we hoped its sheltered aspect and maritime location would turn up some nice natives.

Such was our heightened sense of anticipation that we had no sooner gathered in the car park by Dunskey Home Farm than Frank Katzer, typically, spied with his naked eye a near-invisible green speck on the farm wall fully 100 metres distant and put up a cry of "*Asplenium marinum!*...maybe". Close-to it turned out to be *A. adiantum-nigrum*, protruding from mortar near to some common-or-garden *A. trichomanes* subsp. *quadrivalens*, *A. ruta-muraria* and *Polypodium interjectum* – identifiable by its lack of a dark annulus apparently.

Just as we were huddled around the wall, the estate's owner appeared. Thankfully, he had been expecting us. Major Orr-Ewing, his wife and their friend Mrs Nicholson set off through the woods with us, seeking pteridological enlightenment. We passed first through Nursery Wood, an old mixed plantation with many healthy wych elms and which proved a happy environment for raising some of the commoner woodland ferns. Amongst the usual suspects – *Blechnum spicant*, *Dryopteris filix-mas*, *D. affinis*, *D. dilatata*, *Athyrium filix-femina* (present in both red- and green-stemmed forms) – were some nice specimens of *Polystichum setiferum*, whose distinguishing characteristics we explained to our hosts.

Descending into Dunskey Glen itself, we crossed the river via a small stone bridge. At this point, Frank redeemed himself by spotting some *Asplenium scolopendrium* clinging to the sheer sides of the ravine some way below. To confirm his find, a few of us brought into action our binoculars, countering any possible misconception that we had brought them for viewing birds. Further down the glen the flora indicated further mineral enrichment on the valley slopes, with much of either side dominated by a huge colony of *Equisetum telmateia*. The horsetail freak amongst us (i.e. me) was left awestruck for some minutes while the rest made a bid for the shore. On the way, a few of us gathered excitedly around a striking *Dryopteris* that we thought might be either *D. expansa* or just a very luxuriant *D. dilatata*. Undecided, we emerged by the sea to find the advance party strewn about the rocks variously admiring *Asplenium marinum* and *A. adiantum-nigrum* or lying back enjoying the sun. Adrian Dyer, Alastair Wardlaw and Martin Rickard had meanwhile discovered growing on rocks some *Polypodium interjectum* with markedly overlapping and rounded pinnules and which Martin had christened *P. interjectum* var. *obtusatum*. Not quite a new species, but good enough to let us return to our cars with a sense of possibly spurious achievement.

The Hills Wood, Dumfries (25/928732) – (Monday a.m.) **Frank McGavigan**

Adrian Dyer used to bring his students to this site on field trips as it contains a fair representation of the Scottish fern flora, so it seemed a good place to bring our visitors from England and America. The route started in a delightful old railway cutting containing *Asplenium scolopendrium*, *A. trichomanes*, *A. adiantum-nigrum*, *Athyrium filix-femina*, *Dryopteris filix-mas* and *Polystichum setiferum*, among others.

The path then separated from the course of the old railway, entering more open deciduous woodland with *Pteridium aquilinum* and *Dryopteris affinis* much in evidence. Beside the path, what had once been a shady woodland hollow had been transformed into an impenetrable thicket by the fall of a massive sycamore tree, which had allowed a wholesale invasion of bracken, nettles, brambles and Himalayan balsam. Adrian assured us that *Phegopteris connectilis*, *Gymnocarpium dryopteris* and *Polystichum aculeatum* were to be found somewhere in this jungle but how to locate them? We had forgotten about the resourcefulness of Mr Acock. Pioneer Pat plunged in, oblivious to stings and prickles, beating a path through the nettles and brambles more or less with his bare hands. He quickly found the *Polystichum* and oak fern beside a stream, spotting *Polypodium vulgare* on the fallen tree in passing, and with a little more effort located the beech fern.

Rejoining the main path we climbed the hill into planted coniferous forest with a ground cover of *Dryopteris dilatata* and bracken, with occasional clumps of *Oreopteris limbosperma* and *Blechnum spicant*. The path then followed a circular route back to the starting point. A most enjoyable and relaxed morning: what's the odd nettle sting or bramble scratch to the dedicated fern enthusiast?

Mennock Pass, B797 (26/853103) – (Monday p.m.) **Frank McGavigan**

With our numbers now down to six, we reached the climax of what had turned out to be a highly successful weekend. We had come to this lonely glen near Wanlockhead, Scotland's highest village, to see one species *Cryptogramma crispa* – and what a sight it was. On the

north side of the glen loose scree tumbles down the hillside almost to the roadside and just about the only living thing in the scree is parsley fern in enormous clumps, as much as two feet high by three across. During our visit the plants were covered with fertile fronds that almost totally obscured the vegetative fronds underneath. They looked so happy that Carl Taylor joked that they must have evolved there, and it was certainly true that some of the plants had clearly been long-established, quite surprising really given the very loose nature of the scree, composed as it was of quite small-sized rocks and completely lacking any more solid matter to act as a stabilising force. On the higher, acidic slopes of Scotland's mountains parsley fern is relatively common, though it usually requires some fairly arduous walking to reach it, but seldom have I seen it so abundant and in such massive clumps as here, and you hardly need to get out of your car. It was fitting to end this wonderful weekend with what Carl would have called this "Holy Cow!" experience.

photo: F. McGavigan

Carl Taylor and *Cryptogramma crispa* – Mennock Pass

HEREFORDSHIRE/SHROPSHIRE BORDERS – 31 July-1 August Pat Acock

On Friday evening we met at our centre for the weekend, the Riverside Inn, Aymestrey, where we were issued with revised details of the weekend's excursion and had the opportunity to get to know others in the group.

The next morning we were introduced to our co-leaders for the weekend, Martin Rickard and Clive Jermy. Martin reminded us that Edward Newman had had a relative in the area and a number of the sites we were to visit are mentioned in his *History of British Ferns* of 1840, 1844 and 1854. Our task for the morning was to go into Aymestrey Quarry (32/425655) and record the ferns and try to re-establish the records for *Phegopteris connectilis* and *Gymnocarpium dryopteris*. Along the floor of the quarry we soon discovered many of the common ferns including *Polystichum aculeatum*, *Oreopteris limbosperma* and *Asplenium scolopendrium*. We had decided to break into two groups, with Clive working with the newer members and those not wanting too much strenuous effort and the rest free to rove further afield. The latter group soon tracked down *Phegopteris connectilis* above a dry waterfall but probably reduced in numbers since Newman's time by the onslaught of the conifer plantation. Nick Hards located *Gymnocarpium dryopteris* a little further away. Both groups had come across good candidates for *Dryopteris* x *complexa*.

After lunch at the inn we moved on to Shobdon Wood (32/404643), where Newman also mentioned that both *Phegopteris connectilis* and *Gymnocarpium dryopteris* occurred. Climbing up a dry streambed we once again found *G. dryopteris* and a little further on, in a very similar niche as the morning, we added *P. connectilis* to the list, along with many of the more common ferns we had seen in the morning. Both species seemed to be restricted to gaps in the conifer canopies and reduced in number since Newman's time.

Our final port of call was Gatley Long Coppice (32/430683), where we found fewer of the common ferns but were able to refind the one site for *Dryopteris aemula* for this part of the country. Martin explained that it was thought to have been brought in with the conifers either as a spore or as a small plant and became established on the stump of an old tree. There were now three small crowns left, but with the old stump deteriorating they may not last much longer.

At the evening meal, a reunion of the 'Jimmy Dyce Dining Club', 28 of us enjoyed an evening of small talk and good company, concluded very late by a slide-show of Martin's recent trip to the Azores with special reference to tree-ferns.

On Sunday morning we made our way to High Vinnals car park (32/474732). This very hot day saw us walking gently through the forest where we were rewarded very quickly by four horsetails within fifty yards. These were *Equisetum arvense*, *E. sylvaticum*, *E. telmateia* and *E. fluviatile*. Further into the wood we came to a small boggy area where *Dryopteris dilatata* and *D. carthusiana* grew together and it was not long before we were shown the hybrid *D.* x *deweveri* by Clive Jermy. Retracing our steps we returned to the cars to drive deeper into the forest where we found *D. affinis* subsp. *affinis* and on the slopes we soon found *Gymnocarpium dryopteris*. Climbing a little higher in the brambles, Graham Ackers added *Phegopteris connectilis*.

Further searching did not add any new species and so (crossing into Shropshire) we went on to a pleasant meadow at Whitcliffe (32/505743), overlooking Ludlow, for lunch. A search of the meadow afterwards failed to reveal *Ophioglossum vulgatum*. We then went on to Titterstone Clee Hill (32/595774). We were provided with a list of ferns for the hill, including many we had not seen earlier in the weekend. Lower down on the spoil heaps we had to go on our knees to trace *Botrychium lunaria*. Once we had got our eye in we soon found a small group of them. We then went to the top of the hill, where Clive set us the task of finding *Dryopteris oreades* in acres of very uneven scree. With the aid of a GPS we found *D. oreades* at the grid reference Clive had given us, amongst scree along with *Blechnum spicant*, *Athyrium filix-femina* and *Dryopteris dilatata*. Back-tracking, we came across Martin, who showed us *Huperzia selago*; Nick Hards found a further colony at 32/592781. *Phegopteris connectilis*, *Gymnocarpium dryopteris* and additional plants of *D. oreades* were also seen. Martin had a grid reference for *Cryptogramma crispa*. Even I was amazed when we arrived at the spot with the appropriate GPS reading and looked down to see our quest at my feet, especially as it was the only plant we could find of it. Further searching the scree, Paul Ripley found a good candidate for *Dryopteris affinis* subsp. *cambrensis*. After this, most of the party dispersed homeward, whilst a few went back to Martin's for tea. Martin told us that while descending Titterstone Clee Hill he had spotted a colony of *Equisetum* x *litorale* (confirmed by Pat Acock) at the first cattle grid, a new record as far as we know.

Suitably refreshed, we went to see Martin's new collection of ferns. He is trying to establish a new fern garden that will require the minimum of maintenance. As one would expect, there were innumerable gems, which he delighted in picking out to show us. The more one looked, the more one realised the sheer variety and range of plants that Martin has gathered, many in a short space of time.

The weekend was most splendid, with something for everyone. About thirty people attended and enjoyed themselves immensely throughout their stay in this beautiful part of the country.

LECTURE MEETINGS AND DAY VISITS 2004

SPRING INDOOR MEETING, THE NATURAL HISTORY MUSEUM, LONDON – 20 March

Graham Ackers

Prior to 1990, the only overseas BPS field meeting had been to Austria in 1965. In recent years, however, the Society has visited other European locations, the Macaronesian Islands, and longer-haul venues in New Zealand and Chile. This upsurge in overseas meetings has been enabled by a combination of relatively cheap air fares, folks having more disposable income, and a greater knowledge of foreign floras by amateur and professional pteridologists both in the UK and the countries in question. Recently, the Society organised very successful meetings in Seattle/Washington (August 2003) and Trinidad (January 2004). Both these field meetings had one thing in common — the willingness and expertise of the local organisers. In Seattle this was Sue Olsen and her team, and in Trinidad Yasmin Baksh-Comeau and her team. The excellence of the local organisation rendered the roles of the UK organisers (Pat Acock for Seattle and me for Trinidad) relatively straightforward.

The morning session of this meeting was given over to accounts of these meetings. In his inimitable style, Alan Ogden presented an enjoyable travelogue of the Seattle meeting, showing slides of the participating personalities and, in sequence, the various venues visited, including Perry Creek, various fern gardens, eastern Cascades, Mount Rainier, the Olympic National Park, Mount St Helens, and ending with the farewell dinner in a penthouse suite overlooking Lake Washington. A much fuller account of this meeting appeared in the *BPS Bulletin* for 2003.

I then presented some slides of the Trinidad meeting, showing amongst other things the colonial style guest house where we stayed, various forest shots and the associated ferns, and muddy tracks and muddy people! Although not strictly fern related activities, visits to the Caroni Swamp (to see the scarlet ibises), Soho Caves (to see the oilbirds), the Asa Wright Centre and a tropical garden were most enjoyable.

Several participants in the Trinidad meeting were using digital cameras, so it seemed opportune to invite a couple of them to show some of their images on a digital projector. Michael Hayward's photographs included many ferns (some excellent close-ups such as the fertile fronds of *Lygodium venustum*), some birds (capturing a shot of scarlet ibis in very low light), reptiles, and various scenes. Andrew Leonard showed a great variety of images, some from his subsequent visit to Tobago. As well as ferns and related material, included were such subjects as artfully arranged stall vegetables, statues of Hindu gods, and young local girls! One of the great benefits of digital photography is the ability to discard without cost all unsuccessful images, so the number of photographs taken per subject is not an issue. Taking advantage of this, Andrew took very many (flash) images of oilbirds in the darkness of their cave, and one came out to show a superb shot of a hovering bird. A similar approach achieved a fine close-up shot of a bat in the darkness of its roost under a river bridge.

First in the afternoon was the AGM, with its usual interesting accounts from the various officers of their activities during the year. Having served his three year term of office, Alastair Wardlaw retired from his Presidency at this AGM and, as is traditional, gave his Retiring President's Address after a tea break. The subject for this is entirely the choice of the presenter, and Alastair chose to highlight his own garden in a talk entitled 'A Garden of British Ferns'. His presentation contained several themes, including the effect of ice ages on national fern floras, local climatic considerations, the construction of growing micro-climates for the more marginal garden subjects, and his British ferns, which constitute an NCCPG collection. His garden obviously holds much fascination, and we could look forward to the visit planned as part of the BPS Scottish meeting in July.

Fuller accounts of the Trinidad meeting, the AGM, and the Retiring President's Address appear elsewhere in this issue of the *Bulletin*. The meeting concluded with a short address from the incoming President, Adrian Dyer, in which he eloquently thanked Alastair Wardlaw for his considerable contributions to the Society's management and activities during his term of office.

This meeting was again held at the Natural History Museum, and grateful thanks are due to Alison Paul for her single-handed organisation and handling of all in-house logistics. Thanks are due also to Bryan and Gill Smith, and Steve and Karen Munyard for bringing BPS merchandise and booksales respectively. And finally, many thanks to all the speakers who contributed to an excellent meeting.

REPRODUCTION IN FERNS MINI-SYMPOSIUM, READING – 20 November

INTRODUCTION — Jennifer Ide

Dr Stephen Jury welcomed the Society and members of the University who had joined us for the day to the Plant Sciences Laboratories of the University of Reading. The meeting was arranged with two sessions of papers under the headings *The Gametophyte in Nature* and *The Potential of the Sporophyte*, with a session of demonstrations in between.

Jennifer Ide opened the meeting, setting the scene by outlining the life-cycle of pteridophytes, with particular emphasis on the homosporous leptosporangiate ferns as they would feature predominantly in the discussions during the day. She highlighted those aspects of the biology and ecology of the cycle that would be discussed further by the speakers or feature in the demonstrations.

THE GAMETOPHYTE IN NATURE

Deviant Life-Cycles — Fred Rumsey

Although pteridophytes are unique amongst land plants in possessing a life-cycle that typically alternates between free-living generations of different ploidy level, i.e. numbers of chromosome complements present per cell, there are, however, a range of species that deviate from this norm. Some complete the cycle, but unconventionally, while in others the cycle is interrupted for long periods, or in a very few cases breaks down completely.

Agamosporous species superficially seem conventional but instead of cycling between haploid gametophyte and diploid sporophyte generations they maintain the same ploidy level throughout. This is achieved by abnormalities in the cell division process during gamete production, such that half the usual numbers of spores but with twice the usual number of chromosomes are produced. This is necessarily coupled with the avoidance of sexual reproduction and generation of the new sporophyte directly from the sterile gametophyte tissue. Two broad categories of these apomictic taxa have been recognised, which are named after their initial describers (Döpp-Manton and Braithwaite), but each system has evolved independently in separate disparate fern lineages. The former is more frequent, not least because of its greater ability to be transmitted through hybridisation, a feature not available to the latter due to male sterility. Reasons for its development were considered.

Life-cycle breakdown occurs at the edges of a range, often as a consequence of the dissimilarity of the generations and their respective tolerances to environmental factors. This is most marked in those taxa that produce 'independent gametophytes', which persist in extreme cases in the complete absence of a known sporophyte generation, such as some *Vittaria* species, and the characters necessary for this system to exist and the factors that may have led to its development were discussed.

Gender Determination — Jennifer Ide

Although the haploid gametophyte is potentially bisexual and therefore self-fertilising, electrophoretic studies on isozymes and studies on recessive lethal genes have shown that

ferns are primarily outcrossing, thus avoiding homozygosity at all loci on homologous chromosomes and the consequent reduced vigour and the disastrous expression of accumulated recessive lethals.

Several breeding strategies have evolved to avoid intragametophytic selfing. The presence of sporophytic lethals, though a rather drastic method, has been found in a number of ferns, and obligate bisexuality, though widespread in plants generally, is only found in the heterosporous ferns and fern allies. The most common method is found in homosporous ferns and is mediated by the production of antheridiogen, a pheromone that promotes the avoidance of bisexuality. Produced by large, meristematic, chordate gametophytes, it promotes the production of antheridia in neighbouring, small, achordate gametophytes. Four variations in sexual breeding patterns involving antheridiogen have been identified, each being peculiar to particular species. However, field studies have shown that within a species, sexual strategies may vary both between populations and between individuals within a population and these appear to be genetically controlled. The absence of genetic self-incompatibility and the retention of the potential for intragametophytic selfing in ferns has an obvious advantage during colonisations and at times of reduced population size. The production of antheridiogen is under environmental control. Laboratory and field studies have shown that spore densities and soil topography are important in determining gender composition, fertilisation success and mate competition, by promoting asynchronous germination and development.

The significance of the diversity of breeding systems for the habitat range, and therefore the geographical range, of homosporous ferns was commented on.

Spore Banks and Endangered Ferns **Adrian Dyer**

Cultured soil samples have revealed the existence of natural soil spore banks, reservoirs of live but dormant spores buried in the soil. They occur for many different species and in a wide range of habitats to depths of over a metre, and a single soil sample may contain at least nine species. Although it is not known how long spores can survive in the soil, many British species have a persistent spore bank, present all-year-round. Movement through the soil is probably mainly mediated by percolating water. Persistent spore banks may allow establishment throughout the year as well as reduction of genetic erosion in declining populations. Soil spore banks make possible the accidental introduction of alien species in mud on boots.

After describing the evidence for spore banks and their nature, Adrian went on to explain their potential role in conservation, through *in situ* soil disturbance and habitat manipulation or as a source of material collected for *ex situ* conservation collections. Artificial spore banks, spores stored in artificial conditions, also have a role in conservation. Low temperature and moist conditions are known to extend spore longevity but there is urgent need for research into spore ageing and the effects of storage conditions on a range of species.

Naturally Occurring Hybrids **Johannes Vogel**

The results of extensive investigations into the origin and history of naturally occurring hybrids were described. The 'success' of these polyploid plants in relation to their diploid progenitors is attributed to their ability to maintain higher levels of heterozygosity, in expressing less inbreeding depression, and their often polyphyletic origins. This mode of formation incorporates genetic diversity from multiple progenitor populations into the polyploid 'species', thus leading to a broad sampling of ancestral diversity into the polyploid gene pool. With more than 50 taxa, *Asplenium* is the most species rich fern genus in Europe. Half of these rock ferns are diploid and they are ancestral to all European polyploids. Of these 50% are auto- or segmental allopolyploids and 50% are allotetraploids. With the help of a recently completed phylogenetic study, Johannes explained that he and his co-workers are able to put the different breeding systems, substrate specificities and polyploid combinations into a wider evolutionary context.

A prominent example of a European allotetraploid is *Asplenium adulterinum*, a taxon with a widespread but scattered distribution, mostly confined to serpentine outcrops and endemic to Europe and British Columbia, Canada. In contrast, the ancestral diploids *A. viride* and *A. trichomanes* are widespread and abundant in the Northern Hemisphere. Despite findings that demonstrate that *A. adulterinum* and other European allopolyploid taxa adhere to all of the attributes that are associated with polyploidy as a success story, they are not as widespread or abundant as their ancestral diploids. On the basis of their findings, Johannes and his team argue that in Europe, during the relatively short (in evolutionary timescales) interglacials, neo-allopolyploids are often not able to free themselves ecologically and genetically from their diploid ancestors. Therefore they are confined to narrow ecological niches, have fragmented populations, are prone to genetic drift and or habitat destruction and thus are ephemeral. With *A. adulterinum* being confined to serpentine outcrops, there are a manageable number of sites and plants to investigate, and it is possible to assess how often the taxon has evolved via hybridisation and subsequent polyploidisation.

The Potential of the Sporophyte

Vegetative Propagation — Martin Rickard

Martin Rickard combined what proved to be a popular demonstration with an illustrated talk on methods of vegetative propagation of ferns by division, leaf bases and bulbils. He stressed the importance of vegetative reproduction as often the only way of perpetuating old named cultivars.

Propagation in a Commercial Nursery — Neil Timm

Neil Timm, landscape gardener and fern nurseryman, described his methods of propagating ferns on a large scale for his nursery. Of the three main methods of propagation, division was of limited use to the nurseryman, even for plants that did not come true from spores, because of the small yield and the large number of stock plants required. Possible exceptions were *Pilularia*, *Matteuccia*, and perhaps *Ophioglossum* if an easier method of growing it could be found.

Growing from spores was the ideal way to propagate plants. Few stock plants were needed, the spores needed little storage space and the output was large. The prothalli were hardy and tough, and no special compost was needed – Neil recommended John Innes as it did not encourage fungus gnats. Finally, little extra care or skill input was required other than the need to maintain a basic level of cleanliness. Neil begged to differ with some of the strictures of Barry Wright's method of growing ferns from spores, much to the amusement of the audience!

Micro-propagation – more specifically, *in vitro* meristem culture – had the potential to solve some of the problems of the previous two methods, especially with plants that were only, or preferably, propagated by division. The major problem was that the small sales volume of ferns, unlike some flowering plants, does not yield sufficient income to justify the expense and high skills input for the annual propagation of the large numbers required. When used, the tendency is for the market to be flooded with a particular fern once every three to five years, then it is not seen again for a period because the need to cover the costs means selling large volumes. (This happens with some flowering plants also.) Is there a niche here for a cottage industry?

Sporophyte Varieties — Martin Rickard

Rather than talk specifically about the diversity and historical origin of sporophyte varieties, Martin enthusiastically illustrated the diversity of the pteridophyte sporophyte with examples from his recent trips to Taiwan and fern gardens in Germany.

The BPS Spore Exchange: A Scientific Approach — Barry Wright

Barry began his talk by explaining that the spore exchange, which he and his wife run on behalf of the Society, is not a spore gene bank. The purpose of the exchange is to receive donations of spores and distribute them among members. They currently retain any

remaining spores indefinitely and have effectively developed a growing archive of species and varieties. All are maintained at 4°C in airtight boxes in a dedicated fridge. Two limitations have to be realised by recipients of spores: the identity of the spores received by the exchange cannot be guaranteed, nor is it possible to determine their viability.

Barry and Anne have endeavoured to adopt a scientific approach to maintaining the spore exchange in that spores are cleaned and prepared on receipt, and a systematic numbering system is used for the donations. They aim to minimise contamination of the samples whilst preparing them for the exchange, but the purity of the spores received cannot be guaranteed. They also maintain a reference collection of microscope slides made from selected species sent in by members. This enables the checking of the purity and identity of the spores sent in. One additional scientific exercise they are undertaking is attempting to determine the viability of spores sent out, and to that end they have been collecting information from members since 1999 on the germination success of spores received. The spore exchange now contains some spores dating back to 1997. Members can elect to have spores as old as this in preference to the alternative taxa that they are asked to list on their applications. (More detail on the Spore Exchange can be found in the *Pteridologist* (2004) Vol. 4 Part 3, pp. 90-91.)

DEMONSTRATIONS

The four demonstrations ran simultaneously, each being repeated three times.

Growing Ferns from Spores

Patrick Acock

Patrick explained: "After 25 years of growing ferns from spores, using different composts and innumerable methods found in old copies of the Gazette and fern books, with very varied degrees of success, I decided to try Barry Wright's method, '*The Wright Way To Grow Spores*'*. From his first trial, he has consistently had 90-95% germination rates, with any failures usually resulting from initially poor spore material. The method's strength lies in the fact that the sporophytes live in a closed environment until one is ready to deal with them. (*This leaflet is available from B. Wright.)

Cleaning Fern Spores

Barry Wright

Barry demonstrated the method that he and Anne use for cleaning fern spores for inclusion in the BPS Spore Exchange. It is a relatively simple process, the essentials of which are a sheet of glass and a Stanley knife blade. Basically, the technique relies on the smaller spores sticking more firmly to the glass than the sporangia when the glass is moved from side to side whilst being inclined at 45°. It is then possible to carefully remove the sporangia from the outside of the spore mass leaving a relatively clean spore sample in the centre of the glass. (A full description can be found in *Pteridologist* (1999) Vol. 3 Part 4, pp. 62-64.)

The Spore Reference Collection

Barry Wright

As part of the BPS spore exchange, Barry Wright has built up and maintains a reference collection of microscope slides of spores. The spores are mounted in DMHF (Dimethyl-hydrantoin-formaldehyde), but first they are prepared by sticking them to a film of glycerine jelly on a slide and rinsing them with alcohol to remove any hydrophobic coating. The DMHF mountant is applied and the slide labelled with the three-part number of year of donation, taxon number and donor number. The collection, among other things, enables them to check the identity of some of the donations and compare donations of the same species from different donors. A full description of the technique is given in the *Pteridologist* (2003) Vol. 4 Part 2, pp. 62-64. Most of the equipment is available from www.brunelmicroscopes.co.uk, except for the DMHF, which is difficult to source. Brunel's alcoholic mountant can be used as an alternative. On behalf of Barry and Anne, Jennifer Ide demonstrated how to make slides of spores by their method.

Many thanks to Stephen Jury and his team for their hospitality.

REGIONAL MEETINGS 2004

LEEDS & DISTRICT

Moonwort Survey, Yorkshire Dales – 15 May

Barry Wright

Building on previous surveys, we turned our attention from the North York Moors National Park (NYMNP) to the Yorkshire Dales in the hope of finding similar abundant moonwort (*Botrychium lunaria*) colonies on suitable roadside verges in a different part of Yorkshire. A preliminary reconnoitre of the area revealed that there were certainly locations where it could be found. As in the past, we decided to do methodical survey work along both sides of as many roads as we could to determine the location, extent and density of moonwort colonies.

Armed with our GPS devices and maps I took the assembled enthusiasts to one of the better locations for moonwort on the road between Leyburn in Wensleydale and Grinton in Swaledale. The site chosen was also adjacent to an old mine working (44/058962). Mining spoil heaps seem to be an additional association for moonwort in the Dales and NYMNP areas. Having 'got our eye in' we all went our separate ways to do different road sections, meeting up at the pub in Grinton for lunch. From here we dispersed along other sections of road to complete the picture as far as we could in a single day's effort.

The stretch surveyed was from about 44/076942 to 44/052968, all above 300m. The team recorded a good distribution of colonies of varying sizes on both sides of the road, especially near old mine workings. The other section we studied was between 44/044973 and 44/037956 (300 to 450m) on the Grinton to Redmire road. This was stuffed full of moonwort. At one point I had to decide how to record whether clumps were discrete or part of a larger colony. I decided to count ten paces after seeing the last spike. If I saw another before then, I assumed it was part of the same colony and re-started my count. On this basis, there was one section on the western side of the road where the colony continued for about 125 metres with spikes at less than seven metres (ten paces).

There were other outlying records made by both Bruce Brown and myself, indicating that moonwort is as common on Dales verges as it has proved to be in the NYMNP. Curiously, we only located two individual blades of adder's tongue fern (*Ophioglossum vulgatum*) during the day. One was on the Leyburn side of the moor at 44/07348 94530 and the other on the Grinton side at 44/05618 96573. Annoyingly, the location on the Leyburn side, although GPS-referenced, proved very difficult to take the team back to. You try finding an adder's tongue blade that is 2.5cm x 2cm and green in several square metres of lush green turf. The plant on the Grinton side was easier to re-locate as it was close to a road sign. The elevation of both sites was about 300m. An excellent day, especially as we avoided the rain this year.

So keen is my team of moonworters, that John and Brenda Wilson and I revisited the NYMNP on 29 May to 'join the dots' from our previous surveys. There were a number of sections we had not looked at because of the way individuals worked their sections, i.e. they started a long way apart and time ran out before they met in the middle. This was another good day weather-wise, mostly, and also for finding good colonies of both moonwort and adder's tongue.

So, it looks as though we're on for another session next year. If anyone else wants to join us and get the funny looks from passing tourists (some even stop and ask what we are doing!) as you slowly walk along looking as if you've lost a contact lens or your wedding ring, please feel free. It's much more fun on a Saturday afternoon than, dare I say, watching football!

Walesby Wood, Market Rasen, Lincolnshire – 19 June

Neil Timm

On an unexpectedly bright morning, seven members of the Leeds and District Group assembled at (53/11718 90603) on Walesby Lane, just outside Market Rasen in central Lincolnshire. The intention for the morning was to explore a green lane and the surrounding

woodlands. It soon proved, however, to be a morning of surprises, not least for me as organiser. The area is mainly forestry plantation on a site that was formerly old sandy heath and it proved to be much richer than I anticipated following the winter reconnoitre. Within a few yards of entering the lane the deep, shady ditches on each side gave us *Dryopteris dilatata*, *D. filix-mas* and *Equisetum arvense*, and the group was able to confirm that several clumps of *Polypodium* seen during the pre-meeting reconnoitre were indeed *P. vulgare*. However, *Dryopteris affinis* subsp. *borreri* was also found, surprisingly, as it was thought that we would have to look for it deeper in the wood, and a further pleasant surprise occurred when *Equisetum* x *litorale* was found growing by the lane side (53/11878 90507).

We then moved into the wood and added *Pteridium aquilinum* (of course) to the list, though with much more glee we were also able to add *Dryopteris affinis* subsp. *affinis* (53/12119 90752). Shortly afterwards, when some members explored a small stream to the right of the track we were following, they saw *Athyrium filix-femina*, but this was soon topped by our chairman, Barry Wright, who, bravely plunging up to his neck into a muddy tangle of brambles and nettles, managed to find *Blechnum spicant*. This was a great find as its apparent absence had seemed strange since it is to be found in most of the surrounding woods. A little further on some members found *Dryopteris carthusiana* growing with the *D. dilatata*, interesting in itself but also adding to members' growing speculation that the hybrid *D.* x *deweveri* might also be found. This, however, proved too much of a challenge, it still being early in June, though there were several plants that roused much interest. The wood had not quite finished with surprises yet, as quite unexpectedly *Oreopteris limbosperma* now turned up just at the side of the forestry track (53/12409 91079), bringing our total so far for the morning to a healthy twelve.

photo: B. Wright

John Wilson, Neil Timm & Paul Ruston observing wall of ferns at Wold Newton, Lincs.

Having started promptly at 10.30 and having now found all we could reasonably hope for in the wood, I suggested that it might be possible to fit in an extra stop before lunch at an interesting mural site on the edge of the Wolds. We therefore made a quick route march back to the cars and drove up on to the nearby escarpment, to the village of Wold Newton. Beside the Viking Way long distance footpath we found an old barn with the look of a chapel about it (53/242970), on the east wall of which were growing *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens* in quantity, *Dryopteris filix-mas* and, unusually for an exposed wall site, *D. dilatata*. At this point the group split up, some of us being tempted to go on and explore the old grasslands on the escarpment of the Wolds for flowering plants and admire the landscapes, while others were more tempted by the promise of a pub lunch.

After lunch both parties and two more members were reunited at The Fern Nursery, Binbrook for a tour of the garden and greenhouses. Members tried to put names to many of the ferns, which had often been grown from spores and had no known history or name.

Having been fortified by refreshments in the conservatory, members were eager for more challenges and readily agreed to my proposal of an extra venue for the end of the day. We therefore took to our cars and went to a secret location in the heart of the Wolds. Here we entered a small area of densely overgrown woodland; this was challenging, as the edges were thickly surrounded by nettles and brambles, after which we plunged down a steep, muddy slope. At the bottom, however, members found themselves in a very deep, dank and ferny vale, which had been cut from the hillside by the action of several springs. These are apparently being venerated by local pagans, who had left a number of offerings hanging from the trees. This proved to be a site very rich in *Polystichum setiferum*, which we had not seen yet that day, as well as *Athyrium filix-femina* and *Asplenium scolopendrium*, all of which were exceptionally well grown, including some hart's tongue that were a good 70cm tall. All the members present agreed that this was a classic fern site and a fine end to the day, that was well worth the effort of entry.

Woods North of Sheffield, South Yorkshire – 17 July **Paul Ruston**

Our first call was Glen How Park in the upper Don Valley, a few kilometres north of Sheffield. Glen How, covering about 19 acres, is a small park by comparison with other Sheffield parks and is thickly wooded with beech, oak, willow scrub and planted ornamental trees. A stream meanders through the park.

Six of us assembled at the car park (43/296942) where we immediately spotted *Athyrium filix-femina*, *Dryopteris dilatata*, *D. filix-mas* and *D. affinis* subsp. *borreri* growing at the foot of a stone boundary wall. A young and immature *Polypodium* (without sporangia), possibly *P. vulgare*, was seen growing on the wall top. *Blechnum spicant* was noticed down by the watercourse. Just a short distance from the Glen How Tower a large *Osmunda regalis* (possibly planted) was seen in close proximity to very tall plants of *Dryopteris affinis*, a most pleasing combination. A very foliose form of *D. affinis* was also seen close by, with large, deeply crenate pinna segments clearly projecting at an angle from the plane of the blade. This was later identified by Ken Trewren as *D.* x *complexa* nothosubsp. *complexa*.

Beyond New Mill Bridge (a narrow and ancient packhorse bridge, moved to this location from the Ewden Valley in 1927, prior to reservoir construction there) the glen narrows with increasing steepness. We followed a path that took us to the head of the glen, passing *Polystichum setiferum* on the way. When at the head, a curious *Dryopteris filix-mas* with elongated pinna segments was seen and examined; sori were present but spore development was incomplete. There is a park record for *Gymnocarpium dryopteris* so, with this in mind, we decided to follow the stream back to the bridge. Not a simple task; the stream descended the ravine in a series of steep waterfalls and the whole place was knee-deep in leaf litter and fallen trees. During our descent into the abyss we came across many very leafy *Dryopteris affinis* subsp. *borreri*-type plants; it was suggested that these very distinct ferns were perhaps the progeny of some variety planted in the lower regions of the park at some time in the past. Even the *D. dilatata* here looked very distinct in the dimming light from those seen lower down the glen, the blades dark blue-green and the long, thick stipes covered with large black scales. A spring was seen to flush through a sandstone outcrop that was overgrown with vegetation creating a sort of cave; we examined this for *Trichomanes speciosum* gametophyte but with a negative result. We returned to the stone bridge without locating the oak fern. It may have been recorded where the waterfalls are. Ropes and brave volunteers are required for that adventure.

A short drive over the moors took us close to High Bradfield in the Upper Loxley Valley (43/268925) where lunch was taken. A short walk to Rocher End Brook took us through the churchyard where a stone retaining wall supported *Asplenium ruta-muraria*, *A. trichomanes*

subsp. *quadrivalens* and a few stunted *A. scolopendrium*. *Athyrium filix-femina* and *Dryopteris filix-mas* grew around the ancient church. Having cut deeply through the soft sandstone and shale, Rocher Brook flows through a steep-sided ravine, the much harder millstone grit having formed moderate-sized waterfalls (43/265929). The banks and waterfalls are the sites of some very large *Dryopteris affinis*. Unfortunately the heavy rain had made conditions underfoot extremely difficult; a few fearless members managed to slither down the slippery bank side to view the ferns. A walk up the stream-bed revealed plenty more of the same, along with *Athyrium filix-femina*, *Dryopteris dilatata*, *Oreopteris limbosperma* and *Pteridium aquilinum*.

We next drove over to Smallfields (43/258927) and walked to Agden Bog, noting some of the ferns previously seen including an abundance of bracken. *Equisetum fluviatile* and *E. arvense* were seen, along with one small *Oreopteris limbosperma*. The stone bridge at Agden Dike was seen to support a good colony of *Asplenium scolopendrium*. At Emlin Dike (43/248927) we saw *Blechnum spicant* and many very tall and robust *Dryopteris affinis* down by the watercourse. The riverside here was strewn with large angular blocks of millstone grit forming deep and dark recesses, making perfect habitats for *Trichomanes speciosum* gametophyte. A search with the help of torches quickly revealed the luminous green glow of a small patch of the gametophyte growing on the rock at the back of a narrow recess.

Our last call was to Royds Clough (43/259900). Although thickly planted with mature spruce trees, the clough has still retained colonies of *Equisetum sylvaticum*. A few shoots of *E. arvense* and one solitary shoot of *E. fluviatile* were seen in the surrounding fields. To finish a long day's ferning we climbed over a wall and then down to where a stream (Wet Shaw Dike 43/259902) issues from a culvert beneath the road. Several plants of *Polystichum aculeatum* were growing in the supporting stonework and rock-face – an unusual species to find in this predominantly acidic area.

Chellow Dean, Bradford, West Yorkshire – 14 August **Brian Byrne**

On what turned out to be a rare rainless and sunny day during a very wet month, 12 members met in the morning for a three kilometre woodland walk to and around the first two reservoirs constructed to service the rapidly expanding town of Bradford in the mid 19th century. Disused for many years, the whole site is now a local nature reserve and SSI, situated just over two miles from the city centre. The woodland path from the car park follows a ditch that becomes a small stream with *Dryopteris dilatata*, *D. filix-mas* and *Athyrium filix-femina* as well as *Pteridium aquilinum*, all plentiful. A small clearing across the stream was seen to support an extensive colony of *Equisetum sylvaticum* and exploration of this wet area revealed a single plant of *Oreopteris limbosperma* (44/25736 89705) that was previously unknown from this site. Further on in a more open area a large colony of *Equisetum arvense* was encountered. The path on the western side of the reservoirs was notable for *Blechnum spicant* and a clump of *Dryopteris affinis* that we collectively agreed was most probably subsp. *borreri*.

It was at the far end, after crossing the dam of the lower reservoir, that the reason for bringing the group to this site became self-evident. On the walls of the spillway were *Asplenium ceterach*, *A. adiantum-nigrum*, *A. ruta-muraria*, and in the spillway itself was a good colony of *A. scolopendrium* 'Crispum'. But this was just the starter. The height from the water to the path on top of the eastern wall of the lower reservoir varies from about two to four metres, and for a distance of about 300 metres this wall was prolifically covered in these aspleniums, though the *A. scolopendrium* here was the normal form. At the southern end *A. ceterach* clearly dominated, with a gradual transition towards the north to an area dominated by *A. adiantum-nigrum* with hardly any *A. ceterach*, possibly due to the shade from the willows growing in the water at the base of the wall at this end. A few small plants of *Dryopteris affinis* subsp. *affinis* were found on the wall there, and at the very end, as the wall ends in the grassy bank of the base of the upper dam, a small colony of *Asplenium trichomanes* subsp. *quadrivalens* was discovered.

After our pub lunch in the village of Harden (44/088378) we walked the track alongside the beck to the caravan site, admiring some astonishingly luxuriant colonies of *Blechnum spicant* on the other side of the stream, before entering Goitstock Wood (44/080372) and following the path beside the stream to and beyond the waterfall. We examined some large patches of *Dryopteris* x *deweveri* (44/08082 37333), which are quite extensive in the lower sections of the wood, and pondered the implications of some plants being intermediate between *D.* x *deweveri* and *D. dilatata*. Three *D. affinis* taxa were encountered in the wood: subsp. *affinis*, subsp. *borreri*, and on the edge of the stream and below the bridge at the top of the wood, one quite distinctive plant that Ken Trewren calls '*foliosum*' and which we have been finding widely distributed in Yorkshire. Close to this plant was a single specimen of *Polystichum setiferum* not previously known from this site, and in this upper section of the wood a few plants of *Oreopteris limbosperma*.

We then drove the short distance to the St Ives estate, parking near the house (44/082389) for a short woodland walk behind the house to the Coppice Pond. Along this path a short section of wall was found to support *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens* and *A. ruta-muraria*. A few paces on and we were looking at a large *Dryopteris affinis*-like plant that we thought could be the hybrid *D.* x *complexa*. This proved to be correct as it had many aborted spores, and Ken Trewren later determined it to be nothosubsp. *complexa*. A little further on and encroaching onto the path in a very vulnerable position was a single plant of *D. filix-mas* 'Depauperata'. The supporting wall of the Coppice Pond above the road held a small plant of *D. affinis* subsp. *affinis* and around the edges of the pond on both sides of the path, extending into the woodland, were large colonies of *D.* x *deweveri* and we wondered if this was an under-recorded fern.

As it was getting late and I had promised a visit to the original 18th-century Bell Bank (44/103390) site of *Trichomanes speciosum* to see the gametophyte, it was back to the cars for the short journey. There were three specific locations I wanted to show our now much depleted group and after scrambling around over unstable wet mossy rocks, noting the presence here of *Polystichum aculeatum*, a new plant for the day, we had the satisfaction of seeing the gametophyte abundantly at all three spots and I had the distinct pleasure of hearing Barry's gasp of astonishment at our final stop! A nice finale to a very enjoyable day.

Hack Falls, near Ripon, North Yorkshire – 4 September — Barry Wright

2004 is the twentieth anniversary of the formation of our local group. On 8th September in our inaugural year we had a meeting in some local woodland at Hack Falls, Grewelthorpe, near Ripon. Subsequent to this we visited the woods in 1991 and 1995. I felt it was a fitting tribute to the band of loyal members that founded the local group that we should revisit the site this year. The nearest date that we could get to the original was 4th September.

It was a shame that our founding leader, Jack Bouckley, was unable to join us, but we were thinking about him as 14 of us made our way through the wood. Although I was a founder member, I unfortunately did not attend that particular meeting. However, Bob Adams was not only a founder member but was also present on that first visit to Hack Falls. It is curious to note in Jack's account of the meeting that he reported Bob as being "*one of our younger members*". This, amazingly, is still the case 20 years later! Over the three previous visits made to the woods we had chalked up a grand total of 17 species of fern. When we arrived on 4th September I set the challenge of trying to find three additional species so that we could say we had found 20 species on our 20th anniversary.

This wood is particularly fascinating and interesting in that there is an intimate mixture of both acidic and calcareous substrates in various locations throughout. Of particular note is a large block of tufa (44/23390 76987) not far from the entrance to the wood. This magical place, for a fern lover, supports good stands of *A. scolopendrium* along with abundant *Polystichum setiferum*. Here we all posed for the group photo, trying not to sink into the mud or slither down to the river in an undignified manner.

photo: B. Wright

Hack Falls – Leeds & District Group's 20th Anniversary meeting

Martin Harrison, Paul Ruston, Ken Trewren, Eric Beety, Bob Adams, Alison Evans, Barry Wright, Mathew Adamson, Brian Byrne, Shelagh Smethurst, Bruce Brown, Brian Smethurst, John Wilson, Chris Evans & Bracken

Not much further down the valley on the opposite bank to the footpath is an extensive stand of *Phegopteris connectilis* (44/23455 77166). In 1984 this was recorded as covering "*about 30 square yards*", and was pointed out by the meeting leader, the late Dr Sledge. We continued our descent, pausing at a folly made of mortared tufa blocks. It supported a colony of *Polypodium vulgare*, we think. Not even the 'younger member' was prepared to scale the walls to check! I then left the group on the path to scramble up the steep river-bed to reach a fallen tree spanning its banks (44/23567 77193) to collect another *Polypodium* that turned out to be *P. interjectum*. Nearby was a distinctive form of *Dryopteris affinis*, which we agreed was going down (to try and get the numbers up to the target of 20) as '*foliosum*' (Ken Trewren's name for it). This is a very common, distinctive and constant form that 'us mere mortals' in the Leeds group can now easily recognise from 20 paces.

From here we completed the descent to Hack Falls themselves, a singularly unspectacular waterfall even with a good flow of water. Then we moved upstream to the lunch spot on a sandy beach, ticking off *Polystichum aculeatum* and *Equisetum telmateia* on the way. After lunch we continued, trying to relocate a record of *Gymnocarpium dryopteris* made by another of our 'younger members', Ann Robbins. This we failed to find.

On our way back from the beach we had been instructed by Jack Bouckley to look out for *Polystichum* x *bicknellii*. At a rest stop near a tree stump I looked out across the wood and casually enquired whether the *Polystichum* in the distance was worth looking at. It turned out to be a close cluster of *P. setiferum*, *P. aculeatum* and a large *P.* x *bicknellii* (44/23447 77215). What a superb opportunity for Ken to give us a teaching workshop on tips for identification. Within the next few steps along the main path we found one of the large examples Jack had referred to.

Next we set off downstream of the falls. We considered looking for *Trichomanes speciosum* gametophytes but there didn't seem to be deep dark holes. Ken was undaunted and quickly called the party back to a strange spot with *T. speciosum* growing in a relatively well-lit site

BRITISH PTERIDOLOGICAL SOCIETY

MEMBERSHIP LIST

December 2004

NOTES

E-mail addresses are included for those members who provided them.
These are given in the format supplied and we cannot guarantee their continued validity.

<u>Please</u> remember to notify the Membership Secretary of any changes of postal or e-mail addresses.

Amendments to this list will be published in future issues of the *Bulletin*.

MEMBERS

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(44/23863 77120). It was also in some dark spots. We trekked up a steep path to see extensive stands of *Polypodium vulgare* growing through bilberry. And a stunning highlight, that failed to impress anyone but me, was probably the only plant of *Oreopteris limbosperma* in the whole wood (44/23827 76957). Can't please everyone!

Then we went back to the Tufa to do a tally to include the common species: *Dryopteris filix-mas*, *D. dilatata*, *Athyrium filix-femina*, *Blechnum spicant*, *Pteridium aquilinum* and *Dryopteris affinis* subspp. *affinis* and *borreri* and, if are we allowed, morphotype *insolens*. Total 19. Back at the cars, Ken was able to confirm our twentieth taxon, *Dryopteris* x *complexa* nothosubsp. *critica*.

My personal thanks to a great bunch of fernies for making our anniversary trip such fun and so rewarding. Here's to the next twenty years. And if Bob Adams is still 'one of our youngest members' I think I'll resign!

SOUTH-EAST

Central London – 4 September

Paul Ripley

Morning coffee in the square of Burlington House (home to the Royal Academy, Royal Astronomical Society, etc., etc.) set the right tone for this meeting, which was attended by 14 members. We were pleased to welcome Gill and Bryan Smith from Suffolk, and Jonathan Bryant, attending his first BPS meeting. John Edgington was our leader and he led us expertly on a tour of three quite different parts of central London.

The walls enclosing the stairwells of basement flats appear to be excellent habitats for ferns and all the ferns found on our mini-tour of the West End were in these sites. In Burlington Square itself a beautiful specimen of *Adiantum raddianum* was growing. Along New Bond Street we found *Dryopteris filix-mas*, and in Grosvenor Street, *Pteridium aquilinum* and *Asplenium scolopendrium*. Near the intersection of Gilbert Street and Weighhouse Street we again found *A. scolopendrium* and *Dryopteris filix-mas*, together with *Adiantum raddianum*. At the intersection of Weighhouse Street and Duke Street *D. filix-mas* and *A. scolopendrium* were growing, the latter favouring the white glazed tiles beloved by the Edwardians. We should mention a small private garden in Gilbert Street where *Polystichum tsus-simense*(?), *Athyrium filix-femina* and a *Polystichum setiferum* variety had been planted to good effect. Back to the basement stairwells and perhaps our most surprising find, in North Row, Mayfair, was *Pellaea falcata*, growing with *Pteris cretica* var. *albo-lineata* and *D. filix-mas*.

We now left the West End for the City and, having found *Polypodium ?interjectum* in Carter Lane, took our lunch in 'Postman's Park', just by St Paul's cathedral. This park was the subject of an article in the recent *Pteridologist*. Several good specimens of *Dicksonia antarctica* were growing well, as were *Polystichum munitum*, *P. setiferum* and *Polypodium interjectum*. A short walk took us to London Wall where we found ferns growing on the Roman Wall itself (or Victorian reconstructions/extensions of it). In St Alphage's Gardens we found *Asplenium trichomanes* subsp. *quadrivalens*, *A. scolopendrium* and *A. adiantum-nigrum*, and along London Wall (the road) itself we found the above together with *A. ruta-muraria* (surprisingly rare in London) and – wonderfully – several plants of *A. ceterach*.

Returning to the West End, in Melcombe Street (off Baker Street) we found *A. ruta-muraria* and *A. scolopendrium*. Just round the corner in Glentworth Street, *Pteris tremula*, *Asplenium ceterach*, *A. ruta-muraria* and *Dryopteris dilatata* were growing. We also made the acquaintance of a (supra-terrestrial) flat dweller who proudly showed us in her window-box a fine *Polystichum* variety ('Gracillimum'?) obtained from Martin Rickard.

We then took the tube to Kings Cross and Islington, John Edgington's 'home patch'. After observing *Polypodium interjectum* and *Asplenium ruta-muraria* in Wharton Street we came across *Cyrtomium fortunei*, the latter growing this time on the floor of the stairwell.

We now visited two churchyards, originally created as burial grounds for newly-built churches nearby, but now converted into gardens. In St Andrews churchyard, off Grays Inn Road, we found *Polystichum setiferum*, *Dryopteris filix-mas* and a *Polypodium*. Finally, in St Georges Gardens we found our richest collection yet. *Dryopteris filix-mas*, *D. dilatata*, *Asplenium trichomanes* subsp. *quadrivalens*, *A. scolopendrium*, *Pteridium aquilinum*, *Athyrium filix-femina*, *Blechnum spicant* and *Polystichum setiferum* (both probably planted) and most surprisingly of all, in the brick wall, sporelings of *Dryopteris cycadina*.

None of us expected to see such a feast of ferns (or such a variety of habitats) and our admiration and thanks go to John for his encyclopaedic knowledge of London and its flora, meticulous preparation and for guiding us along a complicated itinerary to perfection.

North of Bournemouth – 18 September (Leader: Robin Walls) **Pat Acock**

About twenty members and guests met at the interesting Avon Causeway Hotel (40/136976), an old station with a Pullman car as part of the dining facility. Robin introduced us to the gathered company and explained the nature of the area and a little of its history.

Setting off along the trackway we had not gone far when Robin found in the puddles coral-necklace, *Illecebrum verticillatum*. This unusual little plant is virtually confined to Cornwall and Hampshire and only in the latter county is it showing signs of expansion; this was a further extension of its range. Turning into the woodland through the bracken we were immediately exposed to *Dryopteris carthusiana* and *D. dilatata*. Moving slightly downhill we reached a small stream and in the marshy ground around it we saw *Osmunda regalis*. Amongst the larger plants we found a few sporelings. We were then in a flattish area of damp woodland drained by a couple of streams. Here the *D. carthusiana* and *D. dilatata* were growing closely and luxuriantly. The search was on for the hybrid and after eliminating many candidates we did find three that we felt were sufficiently intermediate and had the right characters to qualify as *D.* x *deweveri*. Working our way further upstream we added *D. filix-mas* and *D. affinis* before coming across large clumps of *Osmunda regalis* and then Karen Munyard found some *Blechnum spicant*. Back on the original path we found many more plants of coral-necklace and then a large colony of *Equisetum fluviatile* in a swampy area off the path. Reaching the rear of the inn we discovered *Asplenium ruta-muraria* in the surrounding walls.

Following lunch we made our way to Troublefield Dorset Wildlife Trust Reserve (40/125977). Here we saw many of the morning's species in a more natural woodland habitat where many of the ferns grew more vigorously, with one *O. regalis* seven to eight feet tall. We were also able to convince ourselves that the *Dryopteris affinis* was subsp. *affinis*.

We then set off for Robin's house and were delighted by the tea that Robin and Jennifer provided. On a BPS meeting you always know when you have arrived at the right house because the front garden is very different to that of the neighbours, the ferns being tell-tale signs. Around the back there were many more ferns and discussions took place as to exactly what they were. Amongst many gems there was a large clump of *Dryopteris* x *sarvelae*. 'Was' being the operative word, as Robin generously broke up the clump and many of us came away with a crown to try back at home. Our thanks go to Robin, Jennifer and their family for an interesting day and a pleasant relaxing tea to round it off.

Galleywood Common and Tim Pyner's Garden, Essex – 9 October **Paul Ripley**

An excellent gathering of 19 members, the number swelled by some of the East Anglia group, assembled at Galleywood Common, near Chelmsford (52/704021). This apparently unpromising dry woodland yielded some delights. In an unexpected boggy area, a very large colony of *Equisetum sylvaticum* was flourishing, together with some large, handsome *Dryopteris carthusiana*. The question of the existence of the hybrid *D.* x *deweveri* was raised, but could not be confirmed. Also near this spot *Equisetum arvense*, *Athyrium filix-femina* and *Dryopteris dilatata* were seen. *Pteridium aquilinum* was abundant everywhere, but in the higher

parts of the common we found *Dryopteris filix-mas* and *D. affinis* subsp. *borreri*, together with two plants of *Polystichum setiferum* and one *Asplenium scolopendrium* – a pleasing total of ten species.

Most people had brought picnic lunches, which was fortunate since the nearest pub had no food and apparently no beer.

We then moved to Tim Pyner's house in Westcliffe-on-Sea. In his garden is a remarkable collection of Australian and New Zealand plants, flourishing in what must be a very favourable micro-climate. I was particularly impressed by the New Zealand blechnums, especially *B. nudum*, *B. discolor* and *B. fluviatile*. Some very good *Lastreopsis* species and *Cyathea dealbata* also caught my eye. Other plants of note were *Asplenium obtusatum* and *A. oblongifolium*, *Dryopteris pacifica*, *Polypodium scouleri*, *Pteris wallichiana* and *Gleichenia microphylla*, all looking very well. Tim had helpfully produced a list of the nearly 200 fern species and varieties that he grows in his garden. After an excellent tea, we were able to watch some of Tim's and Howard Matthews' slides of the Azores and Madeira respectively, and also some digital pictures of Trinidad and the GEP meeting in Liguria, Italy, as well as a preview from Andrew Leonard of the recently published book (on CD) on *Davallia*. Thanks to all who contributed.

Our especial thanks go to Tim, his daughter Morgan and other helpers for a fantastic tea, and to Tim for his preparation and generosity and for giving us the privilege of seeing a really knowledgeable specialist's garden and plants, many of which one would not see outdoors anywhere else in the northern hemisphere.

EAST ANGLIA

Indoor Meeting, Little Thurlow, Suffolk – 25 January — Howard Matthews

On a beautifully sunny winter's day that made one hope that spring and uncurling croziers were, perhaps, not too distant, nine members of the East Anglian group travelled from near and far to meet in the huge sitting room of the 17th-century home of our hostess, Mary Hilton. The speaker for the afternoon was our member Tim Pyner, who is a self-taught amateur botanist with an interest in all plants from mosses upwards. He is not only keen on fieldwork, recording and leading meetings, but also enjoys growing plants, especially experimenting with supposedly tender ones outside (with a great deal of success, as anyone who has seen the ferns in his Essex garden will testify).

We were to be entertained with a show of slides taken by Tim during the December 2002 BPS field meeting in Tenerife, followed by more shot in October 2003 on an informal non-BPS meeting in Madeira. The two islands are part of a group known collectively as Macaronesia, situated off the Atlantic coast of northern Africa, though Tenerife is better known as one of the Canary Islands. Formed by volcanic activity millions of years ago, and with no land connection with adjacent Africa, the islands contain many endemic plant species. Additionally, the climate is likened to year-round spring, though this varies with altitude and aspect.

Tenerife rises sharply from the sea to the 3,718m peak of El Teide, the highest summit in all of the islands. From sea level to about 760m there is a xerophytic zone, particularly on the south side, with a little rain in the winter only. Between this and 1,250m is a continually mild and damp cloud zone, more so on the north side, with lush forest vegetation. Above 1,250m this merges into a less damp sub-alpine zone. Setting the scene with some general views of the mountainous landscape, Tim apologised for the quality of some of his slides, explaining that his camera failed and he continued with a newly purchased one that he was not used to. I think anyone present would have been hard pressed to spot any difference, for the slides were all of a high standard. We were shown *Trichomanes speciosum* growing with fronds up to thirty centimetres long, so common in places it was almost like a weed on the humid forest floor, while the majestic *Woodwardia radicans* produced fronds up to three metres long. Frequent, but easily overlooked, was the attractive little *Asplenium hemionitis*, whose glossy fronds looked

like ivy leaves. Its more conventional-looking relative *A. onopteris* was quite common in a wide range of habitats. Other notable ferns shown included *Culcita macrocarpa* (rare), *Diplazium caudatum* (common), *Dryopteris oligodonta* (endemic, with fronds up to two metres long) and a rare endemic, *Asplenium aureum* (like a larger, yellow-green form of the European rustyback). By contrast with the wet forest, a fifty-year-old lava field supported plants of *Cheilanthes pulchella*, *Notholaena marantae* and *Davallia canariensis*, among others.

After a short refreshment break, Tim introduced Madeira. Lying about 275 miles north of the Canaries, it, too, enjoys year-round warm temperatures, and has similar climatic zones to Tenerife, but overall it receives much more rainfall. There are no desert areas, and the lower levels are cultivated, mainly on terraces, there being no flat land, while higher country is clothed with laurel forest. The banks of an irrigation system called levadas make relatively easy walking routes. While about twenty percent of Madeira's wild flora is endemic, the island is also home to a lot of introduced plants, many of which have escaped and become naturalised. Following some stunning shots of the jagged skylines, we moved on to the ferns. Scribbling furiously, I filled no fewer than five pages of my notebook with names and brief notes. I cannot possibly do them all justice without producing anything more than a long list, so a small selection follows. *Asplenium monanthes*, *Stegnogramma pozoi* and *Selaginella denticulata* were found beside levadas. A special trip was made to one such waterway to view one of Madeira's rarest ferns, a solitary *Asplenium scolopendrium*! Another rarity was *A. septentrionale*, found with difficulty in adverse weather conditions on the highest mountain-top. *Dryopteris aemula* was found both on levada banks and as a layer beneath bracken. Endemic species included *D. maderensis* and *D. aitoniana*, *Asplenium anceps* (like *A. trichomanes* but with membranous wings along the base of the rachis), *A. lolegnamense* (Madeira's rustyback) and *Polystichum falcinellum*. *Pteris incompleta* was seen with fronds up to 1.5m in length, while *Trichomanes speciosum* and *Elaphoglossum semicylindricum* were found growing as epiphytes. Aliens included *Doodia caudata*, *Pityrogramma calomelanos* and *Adiantum hispidulum*, plus a *Cyathea cooperi* that grew on the side of a mountain far from any garden.

The slides were mouth-watering, and the same adjective has to be applied to the marvellous tea that followed. All thanks go to Tim for his interesting talk and slides, and to Mary for hosting the occasion. I personally drove many miles to this meeting and I feel it was well worth it; I would therefore urge other members, many of whom must live a lot closer than I do, to make the effort to attend future such meetings, for there is no better way of rekindling one's enthusiasm for ferns at an otherwise drab time of the year.

The Plantation Garden, Norwich, The Garden in an Orchard, Bergh Apton and Thornham Magna Walled Garden, Norfolk – 23 May **Tim Pyner**

Eight members rendezvoused at the first site for the day. The Plantation Garden, 4 Earlham Road, Norwich, dates from the mid-19th Century when the owner, Henry Trevor, decided to create a garden in an abandoned chalk quarry. Over a period of 40 years the gardens evolved into an outstanding showpiece. Styled on Italian Renaissance designs, terraces, water features and rockeries surrounded a splendid fountain. The garden contained many architectural features along with eight glasshouses of various sizes. Following the death of Henry Trevor in 1897 the gardens gradually declined and by 1980 the garden was totally overgrown. In 1980 a preservation trust was formed to save and restore the garden. The gardens have now been cleared of undergrowth and many of the architectural features have been restored including the magnificent fountain. This has been achieved entirely by volunteers, several of whom were working as we wandered around.

Of course our main purpose was to record the ferns, many having been recently planted, but others having arrived naturally. The latter group included *Polypodium interjectum*, which was thriving near the top of the fountain and *Asplenium scolopendrium*, which was frequent on the limestone walls and ruins. Most of the planted ferns were those that can be easily obtained from garden centres, although a large *Polystichum proliferum* on a shady terrace attracted interest. A *Dicksonia*

antarctica had recently been planted and formed an eye-catching feature in one of the borders. All the ferns were growing well in the sheltered conditions of the gardens and there is certainly potential for some more adventurous planting. The garden is situated close to the city centre and is a quiet and cool oasis to those who know it. The Trust and volunteers are to be congratulated on their achievement in bringing the garden back to something like its original splendour.

Our second visit of the morning was to The Garden in an Orchard, which is located at Bergh Apton, six miles south-east of Norwich. This is a fascinating plantsman's garden full of interesting plants. As the day was turning out to be quite warm we were thankful for the refreshments provided by the owners, Mr and Mrs Robert Boardman. Mr Boardman then took us on a tour of his garden, which is situated around and through an orchard, allowing meadow areas to be a conspicuous feature whilst blending perfectly with their setting. There is also a long willow arch along one side, which gives shelter. This had recently been cut back but we were told that several metres of growth would be evident by the end of the summer. Mr Boardman, an RHS Committee member, was a mine of information about the rare and interesting plants he grows. He pointed out that despite the garden being in a hot and dry location one particular fern was constantly appearing as sporelings. Some of these he allows to reach full size and we were able to identify them as *Dryopteris dilatata*. Other ferns are planted under trees and appear to be growing well. These included *Polystichum setiferum* and cultivars, *P. munitum*, *P. polyblepharum*, *Dryopteris erythrosora*, *D. cycadina* and *Cyrtomium fortunei*.

At Bergh Apton we had been joined by Nic Cass who would be leading the afternoon meeting at The Walled Garden, Thornham Magna. We met up for a picnic lunch in the car park, after which Nic guided the group around the garden, which is open to the public but is maintained by a group of volunteers organised by Nic. It consists of a large garden walled in red brick and surrounded by woodland. A large greenhouse has pride of place along one wall and has been fully restored with the help of a Heritage Lottery Fund grant. Nic has stocked one section with a superb collection of pelargoniums. The other main section houses a collection of ferns. These are mainly grown in containers and consist of various hardy and tender species that have been obtained from a variety of sources. Some were wrongly or unnamed and we were able to label these for Nic. Most of the ferns were common species but a few such as *Blechnum novae-zelandiae* and *B. nudum* were more unusual. There were nice specimens of *Dicksonia antarctica*, *D. squarrosa*, *Davallia trichomanoides*, *D. griffithiana* and *Platycerium bifurcatum*. The greenhouse is light and airy and the ferns were chosen to provide a cool and lush environment. In this they were succeeding admirably and I look forward to seeing the collection develop in the future.

We left The Walled Garden and, at his invitation, drove to Nic's own garden where refreshments were provided. Nic has a small collection of ferns in containers including good examples of *Cyathea cooperi* and a beautiful *C. tomentosissima*. Nic is a skilled craftsman and we were shown a superb reproduction of a Victorian Wardian Case that he had designed and built himself. The day ended with everyone feeling very satisfied with the standard of the gardens we visited. A special thank you to Mr and Mrs Boardman and to Nic Cass and his family for their kind hospitality.

Thorpe Hall, Thorpe-le-Soken, and June and Gerry Downey's Garden, Frinton-on-Sea, Essex – 19 June

Barrie Stevenson

Continuing our traditional annual joint field meeting, the East Anglian Group invited the South East Group to a garden visit at Thorpe-le-Soken, led by Jerry Bowdrey, Curator of Natural History for Colchester Museums. The Hall itself has been demolished but other buildings on the site are in commercial use and the previously neglected gardens have been sympathetically restored. The fact that the grounds are not open to the general public means that the area has become a haven for wildlife; over 70 types of beetle have been recorded, for example, and during our visit vigilant members found a grass-snake with a vole in its jaws. The Estate was owned by Lord and Lady Byng of Vimy, and Lady Byng (who was a member of RHS Floral Committee B) developed the garden in the late 1920s and early 1930s. She collected plants

from several parts of the world and many of her original plantings exist to this day. We began our tour by inspecting a near-derelict Edwardian lean-to greenhouse. On the north-facing outer surface of the supporting wall was a small colony of ferns comprising *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *Polypodium interjectum* and a few young plants of *Dryopteris filix-mas*. All these were suffering as a result of a few days of hot, dry weather. However, further stands of *D. filix-mas* within the greenhouse were thriving in the deep soil of the overgrown beds, the broken panes of glass allowing rain to moisten the soil beneath.

We next walked around the largest of three lakes, surrounded by many choice trees, notably an enormous, multi-trunked *Arbutus menziesii* over 25 metres tall and a *Taxodium distichum* of more than twice that height. On the margins of the lake were several stands of *Osmunda regalis* and two established plants of *O. regalis* 'Cristata', while *Matteuccia struthiopteris* and *Polystichum munitum* thrived, the latter surrounded by sporelings. *Zelkova carpinifolia*, a superb tree, sheltered *Athyrium filix-femina* and *Dryopteris dilatata*. At the further end of the lake we reached a decaying summer-house that afforded a view through trees of the entire length of the lake. At the lower end of the lake a small stream ran through a large and impressive rockery. The dampness and shelter in this area had encouraged a good selection of ferns, including mature stands of *Osmunda regalis* and *Onoclea sensibilis* and in the damp areas *Athyrium filix-femina* reached enormous proportions. Also apparent were *Equisetum arvense*, *E. telmateia* and *Pteridium aquilinum*. At least three fern cultivars were recognised: *Asplenium scolopendrium* 'Furcatum' and 'Cristatum' and *Dryopteris filix-mas* 'Cristata Martindale'.

After a picnic lunch we made a brief visit to deciduous woodland a short distance from the garden and found not only male and lady ferns, bracken and broad buckler fern but also a single specimen of *Dryopteris affinis* subsp. *affinis*, which is uncommon in Essex.

We are most grateful to Jerry Bowdrey for initiating and leading this visit.

We then drove to Frinton-on-Sea (north-east of Clacton-on-Sea) to visit the garden of June and Gerry Downey, last visited by the groups in 2001. The front garden is not entirely conventional as the main feature is a gravel garden, meticulously raked into rippling waves in the Japanese manner. At first glance the lawn, trees and colourful herbaceous borders of the garden beyond the house are very much more in the English tradition but the quirky and decorative vegetable-plot-in-miniature and a rockery that includes a waterfall are innovative additions.

photo: B.R. Stevenson

Gerry Downey's Garden, Frinton-on-Sea, Essex

Paul Ripley, Geoffrey Winder, Tim Pyner, Peter Clare, Patrick Acock, Gerry & June Downey, Jack Hubert, Marti Martin, Peter Tindley, Andy Martin

However, two splendid fern borders give promise of the rest of the garden, which lies beyond the hedge of *Griselinia littoralis* that grows across the width of the garden. Hidden away from view is an area of greenhouses, shade-frames, bulb-frames, beds, borders and pots galore. Gerry is a plantaholic of the first water and his collections of ferns and alpines (he is a keen member of the AGS) are staggering in their diversity. From an alpine house where cushion alpines rub shoulders with various *Pellaea* and *Cheilanthes* to the shaded greenhouse containing hanging baskets of *Davallia*; from shade-frames that shelter many rare ferns raised from spores to outdoor beds suited to acid-loving plants, this garden is packed with rarities that are in fine fettle as a result of careful consideration of the right conditions to suit every plant.

We are most grateful to Gerry and June for their kind hospitality, which was much appreciated by the 19 enthusiastic members who attended this full and varied meeting.

Thorndon Country Park, Harts Wood and The Magnolias, Brentwood, Essex – 12 September

Anne Beaufoy

Fifteen members from the East Anglian and South East groups forgathered on a fine though windy day at Thorndon Country Park, south of Brentwood, in search of woodland species and hoping perhaps to rediscover the mountain (lemon-scented) fern. The area visited is part of the old Thorndon Hall estate (access: 51/604915), which comprises ancient and managed woodlands, parkland and common. The tree canopy, with many specimens of venerable age, includes sweet chestnut, birch, larch, Scots pine, rowan, beech, oak, hornbeam and ash, with some rhododendrons, cherry laurel and holly; the understorey is mainly bramble. The soil has acid pockets with sandy, pebbly areas overlying London clay and the district at its highest point of about 300 feet overlooks the lower Thames valley.

The recent dry spell had drained away excess surface water, but the plant life had benefited from the August rains and appeared rampant; some even exhibited spring-like flushing of new growth. We explored the temporarily dry course of a small stream, and nearby and on its banks found well grown specimens of *Dryopteris filix-mas* (some with *D. affinis* subsp. *borreri* characteristics) and *D. dilatata*. *Athyrium filix-femina* and *Blechnum spicant* thrived in the damper areas and, to our delight, we found several sturdy plants of *Oreopteris limbosperma*. The largest one, though, was in danger of being swamped by brambles and we did not find any young plants. However, for it to be rediscovered after thirteen years when it had been feared extinct in Essex, made our day.

After our picnic lunch, we visited the adjacent Hartswood where the county's biggest colony of hard fern occurs. We saw fine specimens, together with some *Dryopteris carthusiana*.

Our afternoon concluded by visiting 'The Magnolias', Roger and Linda Hammond's unusual and delightful garden in nearby St John's Avenue. It is a long, narrow plot of just under half an acre, which slopes down and incorporates several ponds. In the garden one is suddenly transported from suburban Essex into a sub-tropical forest, such is the luxuriance and height of growth of plants in this micro-climate. Ferns include British natives and cultivated species such as *Osmunda regalis* (plus the cristate form), *Matteuccia struthiopteris*, *Dryopteris erythrosora*, *D. cycadina*, *Woodwardia* species, *Polystichum munitum*, *Dicksonia antarctica*, *D. squarrosa*, *Athyrium vidalii*, various *Polypodium* species and hybrids and, in a reptile house, some lovely undulate *Asplenium scolopendrium* varieties.

We thank the Hammonds for allowing us to see this lovely place and for their kind hospitality, also Tim Pyner for leading us and Barrie and Rosemary Stevenson for all their hard work in making our East Anglian meetings as pleasurable as ever this year.

Autumn Indoor Meeting, Barrow, Suffolk – 17 October

Barrie Stevenson

At the time of writing we anticipate an interesting meeting at the house of Marie and Geoffrey Winder. The garden will be bursting with ferns that have made excellent growth

as a result of the wet summer, and later cyclamen and colchicum should still be in evidence. Indoors we shall have a lively display of artefacts and will be transported on various ferny forays as we watch slides from the Azores, Madeira, Washington and Trinidad and digital images of various BPS national field meetings. Two traditions that will no doubt be most successful are the bring-and-buy fern sale and the splendid spread of refreshments.

NORTH-WEST

Roudsea Wood NNR, Cumbria – 19 June a.m.

Mike Porter

Eighteen members gathered for the first outdoor meeting of the year at the entrance to this famous Nature Reserve (34/329827) south-west of Haverthwaite on a grey but generally dry morning. Roudsea Wood is notable because it lies on two ridges of contrasting rock type, one of limestone and the other of acid slate supporting very different communities of plants and animals. Between the ridges is a shallow wet valley with alder woodland and a small tarn and further interest is added by the close proximity of the sea, most of the reserve being at or only slightly above sea-level. A wide range of species grows here, most notably the great yellow sedge (*Carex flava*) at what was, until recently, thought to be its only site in the country.

Ferns were immediately apparent on the pathside leading into the reserve – *Athyrium filix-femina*, *Dryopteris filix-mas*, *D. dilatata* and *D. affinis* (subspp. *affinis* and *borreri*) being present in profusion. A little further along the track we encountered the first extensive stand of *Phegopteris connectilis*, a fern that we were to see in great quantities and varied habitats throughout the morning. Having moved down into the wet valley separating the two ridges we found the first of the real specialities of Roudsea – a small colony of *Thelypteris palustris*, looking healthy but not easy to find in the dense and rather wet surrounding vegetation. *T. palustris* is very rare in Cumbria, occurring in only three other sites. Not far from the small tarn we were able to examine fine stands of *Osmunda regalis*, which were in excellent condition with the fruiting spikes just starting to ripen. In contrast to *T. palustris*, this superb fern is not infrequent in the damp woods of south Cumbria where conditions are obviously very much to its liking. Continuing along the wet valley, past more stands of *Phegopteris connectilis* and small quantities of *Blechnum spicant*, we came upon a large area of *Dryopteris dilatata* and *D. carthusiana*. Among these were a number of plants that appeared intermediate between the two and much debate arose as to whether these were hybrids (*D.* x *deweveri*) or simply atypical forms of *D. dilatata* and *D. carthusiana*. Later, in (separate) examinations of the fronds, Bruce Brown and I found that many of the spores were colourless and misshapen, seeming to confirm that at least some of the plants present were *D.* x *deweveri*. The stroll back to the cars past low, wooded limestone crags gave us *Asplenium trichomanes* subsp. *quadrivalens*, *A. ruta-muraria*, *A. scolopendrium* and *Polypodium vulgare*. A bonus was provided when we reached the Site Manager's office and were shown a small colony of *Ophioglossum vulgatum* growing just outside the office building on the edge of an area where there had been a small limestone quarry.

Rusland Valley, Cumbria – 19 June p.m.

Robert Sykes

The area of the upper Rusland Valley that we visited after lunch was formerly a sequence of raised peat bogs, known locally as mosses. They are not what they were, having been drained and planted mostly with pine. This section belongs to the National Park and the Ranger tells me that the trees are being felled and some of the drainage blocked to try to restore them. Meanwhile it is still a wild and interesting habitat.

Jimmy Dyce reporting rather scathingly on a visit to this site in 1980 (*BPS Bulletin* 2(2): 74) – "*a rather wet place where the going was very rough and exhausting, and the ferns few*". On that occasion we saw on the moss *Dryopteris carthusiana*, *D. dilatata*, *D. filix-mas*, *Osmunda regalis*, *Phegopteris connectilis*, *Polypodium vulgare* and *Pteridium aquilinum*. On our 2004 visit we saw all those, except the beech fern and the polypody, and added *Athyrium*

filix-femina, *Blechnum spicant*, *Dryopteris affinis* and *Oreopteris limbosperma*. These are unsurprising in such a place. In fern terms it is the royal fern that makes it special; we revisited the magnificent plant that Jimmy reported (34/336884). For the record there is another stand to the north (34/336888), which we did not visit on this occasion, and a superb range of at least 25 clumps, each of many crowns, further south near Low Hay Bridge (34/337877).

We also saw some roe deer and a small pearl bordered fritillary butterfly, which, according to the local Butterfly Conservation officer is a new site record. We were generously entertained at the end of the day by John and Marion Williams in their newly created garden overlooking the river Leven.

Arnside Knott and Grubbins Wood, Cumbria – 3 July **Frances Haigh**

Arnside Knott is a partially wooded limestone hill on the edge of Morecambe Bay. Twenty members met there (34/450774) and went seeking their first fern, *Gymnocarpium robertianum*. A large colony was found growing in a stony area on north-facing grassland, but we could find no trace of a second smaller patch recorded as being there.

Then we went into the woods on the lower slopes of the hill (passing plenty of *Pteridium aquilinum*) until we came to a shallow depression supporting a good spread of *Phegopteris connectilis*, together with a few small plants of *Blechnum spicant*, *Athyrium filix-femina* and *Dryopteris dilatata*. The nearby entrance to a small fissure cave provided a diversion though there were no ferns around it. Further on, and dropping down into deeper woodland, we came to some mature oaks and tall native small-leaved limes (*Tilia cordata)*. Now there was plenty more *Phegopteris connectilis* in large lush patches, together with good specimens of *Oreopteris limbosperma*, *Dryopteris filix-mas*, *D. affinis*, some *Polystichum aculeatum* and more *Blechnum spicant* and *Athyrium filix-femina*. Finally, having passed a badger's sett, we came to four good sized colonies of *Gymnocarpium dryopteris*, and thus had the opportunity to compare it with the *G. robertianum* seen earlier.

photo: R. Crawford

North-West Group at Grubbins Wood, Arnside

Frances Haigh, Chris Evans, Ann Haskins, Alison Evans, Shelagh & Brian Smethurst, Michael Hayward, Marion Williams, Roy Copson, Dennis Hothersall, Joan Hindle, John Grue, Harvey Shepherd, Penny Ingham, John Benson

After lunch we moved to Grubbins Wood (34/444777). This reserve, close to the shore and managed by Cumbria Wildlife Trust, also lies on limestone though the soil is generally acidic.

Much of it is yew-dominated woodland, giving deep shade with little growing beneath, but a large number of ferns have been recorded here. The ones we found included *Asplenium adiantum-nigrum* growing in a cleft in limestone rocks, and in a small open space, *Blechnum spicant*, *Dryopteris dilatata*, *D. filix-mas* and *Athyrium filix-femina*. Walking along the top of the north cliff offered good views of *Polystichum setiferum*, which is plentiful on the slopes below and an outcrop of limestone gave some *Asplenium trichomanes* subsp. *quadrivalens*, *A. ruta-muraria* and a few fronds of *Dryopteris submontana*. Then, not far away, *Gymnocarpium dryopteris* was discovered. As we moved to the valley we came within view of the steep bank densely covered with *Asplenium scolopendrium* that is a feature of the reserve and we enjoyed ourselves in spotting variations in form. Amongst other ferns seen in this region were *Polystichum aculeatum* and *Dryopteris affinis*.

Most of the group then went back to the cars, but four of us decided to walk the half mile to check on the *Adiantum capillus-veneris* nearer Arnside. It is always a pleasure to see this fern, which yearly seems to cover a larger area. A pot of tea in a nearby café neatly rounded off the day.

Dunnerdale and Broughton Mills, Cumbria – 4 August **Jack Garstang**

In 1960, Jimmy Dyce and Reginald Kaye discovered a congested variety of *Polystichum setiferum* in Broughton Mills. In 1980 Reg Kaye presented a plant to Cynthia Kelsall as an addition to the National Collection of *Polystichum* at the Lakeland Horticultural Society garden at Holehird and it was given the name *P. setiferum* 'Broughton Mills'. Unfortunately this small plant has died off, after struggling to survive for several years. Our hopes for the day were that, armed with a photocopy of a herbarium specimen and a bit of luck, we might discover another plant. Against us was the fact that Broughton Mills is a large area of the south side of the Lickle valley, which runs south-west from the Dunnerdale Fells down to meet the Duddon Estuary, and also the roads and lanes have not altered since the purpresturing days of the land Enclosure Act; with wayside fronds brushing both sides of your car, the ability to drive confidently in reverse is a necessity. With this in mind the eleven members who met in the square of Broughton-in-Furness squeezed themselves into three vehicles.

Our first stop to get the feel of the valley was a pleasant stroll alongside Hagg Lane Beck (34/217891), which burrows its way through overhanging hedges lined with *Athyrium filix-femina*, *Dryopteris filix-mas*, *D. dilatata* and *Asplenium scolopendrium*. We then returned to the cars for a two mile drive to the Hawk plantation on the lower slopes of Broughton Moor. Turning off the A593 road, the 'walls' closed in, forming a tunnel of *Dryopteris filix-mas*, *D. affinis*, *Oreopteris limbosperma* and *Pteridium aquilinum* all the way up the valley until crossing the bridge over Apple Tree Worth Beck into the Forestry Commission parking area (34/239919). A scramble along the beck and around the bridge gave us *Phegopteris connectilis*, *Blechnum spicant*, *Asplenium trichomanes* subsp. *quadrivalens*, *A. ruta-muraria* and *Polypodium interjectum*. Higher up the beck we crossed over on ancient stepping stones to examine the stone walls of a derelict building and found *Cryptogramma crispa* and *Polypodium vulgare*. Our walk followed the road through the plantation, which had been well thinned-out allowing a flourishing under-storey of predominantly *Dryopteris affinis* group and *D. filix-mas* over huge areas on the steep slopes of the Hawk, with bracken and *D. dilatata* on the lower level ground. The circular route through the woods around the Hawk brought us back to our cars in time for a convivial riverside picnic.

After a short drive down the valley into the Broughton Mills area, a hump-backed bridge took us over the River Lickle into Dunnerdale, where we parked on the roadside by Hesketh Hall. The bridge (34/222906) was home to several fine colonies of *Asplenium adiantum-nigrum*, also *A. ruta-muraria*, *A. trichomanes* subsp. *quadrivalens* and *Polypodium interjectum*. Nearby we found our first *Polystichum setiferum*, just two very lonely riverside plants; further along was a good colony of upright polypodiums, which on further study was identified as *P.* x *mantoniae*. We had hoped that this would be the area for *P. setiferum* 'Broughton Mills'. Fortunately our search, though unsuccessful, finished at the doors of the Blacksmith's Arms, where we retired for refreshments and a good chat to finish off a very pleasant day.

High Cross Lodge, Hartsop and Penrith, Cumbria – 4 September Mike Porter

Fifteen members met at the entrance to High Cross Lodge (35/406013) on a rather damp and drizzly morning to examine the ferns of this idyllically situated garden, close to the village of Troutbeck in the Lake District. Linda Orchant, who owns and cultivates the garden, gave us a guided tour and told us about conditions in the garden and her plans for the future. The sheltering trees and southerly aspect ensure very good growing conditions and the gentle slope greatly reduces any problem with frost. At the time of our visit the garden was looking very fine and the plants were in excellent condition. Pride of place went to the *Dicksonia antarctica* and *D. squarrosa*, which looked extremely healthy and, somewhat surprisingly, completely at home in this Lakeland setting. What was even more surprising was that they receive no protection in winter – a testament to the mildness of parts of the Lake District or an indication that global warming is setting in? Among the other ferns in the garden were *Athyrium filix-femina* 'Frizelliae', the attractive *Athyrium niponicum* 'Pictum', *Dryopteris erythrosora* with its distinctive red sori, *Polystichum setiferum* 'Plumosum Bevis' and the glossy leaved *Polystichum polyblepharum*. A number of native ferns, including *Asplenium scolopendrium*, *A. ceterach*, *Dryopteris affinis* subsp. *affinis* and *Osmunda regalis* added to the variety present. This garden, which has many other attractions beside ferns, is open several times a year as part of the National Gardens Scheme and is definitely worth a visit.

Having left High Cross Lodge we drove over Kirkstone Pass, noting large quantities of roadside *Cryptogramma crispa*, and down to Hartsop where lunch was taken in a rather wet and crowded car park (35/402134). However, as the afternoon progressed, the clouds lifted and the sun came through to give us a fine, dry afternoon with sparkling views of the fells around the head of Ullswater. We checked the stone bridge over the Goldrill Beck, finding good quantities of *Asplenium trichomanes* subsp. *quadrivalens* and *A. ruta-muraria* and a large clump of *Polypodium* which, on later examination under the microscope, turned out to be *P. interjectum*. A walk through woods along the shore of Brotherswater gave us the usual common ferns, *Athyrium filix-femina*, *Dryopteris dilatata*, *D. filix-mas*, *D. affinis* (subspp. *affinis* and *borreri*) and much *Oreopteris limbosperma*. There were also a few small patches of *Cryptogramma crispa* on rocky outcrops outside the wooded area and, on the wall of a barn, a dense covering of *Asplenium trichomanes* subsp. *quadrivalens*, *A. ruta-muraria* and *Polypodium vulgare*. A disused mine-working on the fellside nearby was home to quantities of *Cystopteris fragilis*, much of it extremely vigorous and well grown. The stroll back to the cars produced our final fern of the walk, a small patch of *Phegopteris connectilis* growing by the trackside.

The final part of the day was a visit to the garden of Robert Crawford, a member of the BPS for nearly thirty years and a stalwart of the North-West group since its foundation. Following a drive along Ullswater and crafty manoeuvring through Penrith, we arrived at Robert's garden in the afternoon sunshine to admire his collection of ferns, which includes an impressive range of tree-ferns. Penrith is some distance from the coast and often suffers from hard winters, so Robert has to protect his tree-ferns at the first sign of frost. He has developed a system of wrapping only the top half of his two dicksonias, *D. antarctica* and *D. fibrosa*, with straw and waterproof covering but has to protect the whole of the cyatheas, *C. australis*, *C. dealbata*, *C. medullaris* and *C. smithii*. This is done by placing a wooden box around the trunk and packing polystyrene sheets and straw around it inside the box. That all his tree-ferns, including the distinctly tender *C. dealbata* and *C. medullaris*, have so far survived the rigours of several Penrith winters speaks volumes not only for the effectiveness of his system but also for his devotion to duty! A special delight of Robert's garden is the high quality of the plants present, demonstrated by specimens of *Athyrium filix-femina* 'Victoriae' and 'Plumosum Axminster', *Polystichum setiferum* 'Plumosum Bevis' and *Asplenium ceterach* amongst others. By now the September sun was shining warmly and we were able to enjoy a delicious tea, kindly provided by Robert's wife, Karen, while sitting in the garden discussing ferns and making plans for future meetings.

photo: M.S. Porter

North-West Group in Robert Crawford's garden

Standing: Denise Copson, John Grue, Joan Hindle, Harvey Shepherd, Michael Hayward, Dennis Hothersall, Roy Copson, John & Susan Hughes, Karen Crawford & Kyle, Jane Howe
In front: Robert Crawford, Melville Thomson

AGM, Holehird, Windermere, Cumbria – 9 October

Frances Haigh

Once again Holehird, with its attractive gardens, was the venue for the North West Group's annual lecture day and AGM, attended by 37 members. The morning's talk, presented by Adrian Dyer, was a stimulating and informative account of the background to the taxonomic uncertainties around *Dryopteris affinis*. Adrian's clear descriptions helped us to understand how the differences have arisen within this group of ferns but he said that a much clearer picture of genetics throughout the complex was still needed. In the end we weren't always to feel obliged to try to name those examples we came across on our field studies!

Lunchtime gave the opportunity to examine a number of ferny exhibits. Cynthia Kelsall's herbarium specimen of *Polystichum setiferum* 'Broughton Mills' was compared with the *Polystichum* recently acquired by Jack Garstang. Were they identical? Despite many similarities we couldn't be certain.

During the business part of the day it was decided that Robert Sykes would take over coordination of the group, with help from Elizabeth Crowther.

Michael Hayward's talk on 'Fern hunting in Macaronesia' followed. This lively and interesting account of recent meets in Tenerife, Madeira and the Azores gave us a chance to see Michael's magnificent slides illustrating a wide variety of ferns, and including luxuriant growths of *Trichomanes speciosum*, found in many different habitats in these islands.

The potted fern competition attracted interesting entries as usual. The winners were Michael Hayward (native British fern) with a *Dryopteris cristata*, Harvey Shepherd (fern grown from spores by the competitor) with a *Polystichum vestitum* and Julia Haskins (indoor fern) with a splendid *Nephrolepis exaltata* 'Whitmanii'. Mike Porter won the ferny word puzzle.

Many thanks to the speakers and all those who helped make this a pleasant and successful day.

BOTANICAL CORNWALL GROUP

Ian Bennallick

As with 2003, 2004 saw a varied selection of field meetings covering all parts of the county. Several were organised as chances to re-survey some tetrads for the BSBI Local Change survey, particularly in West Cornwall (v.c. 1). Two weekends were organised to look at bryophytes, as demanded by a small but ever-growing band of local botanists keen on these fascinating plants. Other groups also organised meetings in which the Botanical Cornwall Group and its members played a part. The meeting organised for the BPS on the Isles of Scilly in June is reported on page 197 of this *Bulletin*; this was the only meeting specifically looking at ferns. However, ferns are recorded at all our meetings, and some good new localities were found for *Oreopteris limbosperma*, *Equisetum telmateia*, *Pilularia globulifera* and *Dryopteris carthusiana*. The following is a brief rundown of the more notable meetings.

Indoor meeting, Fraddon – 10 January

A large group met at Fraddon Village Hall to discuss the coming year's events and to review 2003. Several displays were brought along, including Rosemary Parslow's excellent photos of *Ophioglossum lusitanicum* and *O. azoricum* from St Agnes, Isles of Scilly, and Rose Murphy's display of *Cystopteris diaphana*.

Chapel Porth, Perranporth (10/7251), Camperdown Farm, Bodmin Moor (20/1279) and Polbrock, near Wadebridge (20/0169) – 24-25 April

This weekend was organised for members interested in bryophytes and was led by Mark Pool, BBS recorder for Devon. No ferns of note were seen on Saturday but on Sunday we saw a luxuriance of species at Polbrock. The most notable fern seen was *Cystopteris diaphana*, which was in abundance along the banks of the River Camel, where it was observed growing around the tree roots of riverside trees, with many young sporelings growing in otherwise bare vertical banks. The populations had been observed in February 2004, with the river in flood, their small submerged fronds waving with the eddying currents. On the rocky wooded banks were good numbers of *Polystichum setiferum*, *Asplenium scolopendrium*, *A. trichomanes* subsp. *quadrivalens*, *Dryopteris dilatata*, and some huge shuttlecocks of *D. affinis* subspp. *affinis* and *borreri*.

Colliford Lake, Bodmin Moor (20/1872 & 20/1873) – Wednesday 26 May

Four members spent this afternoon in brilliant sunshine along the edge of Cornwall's largest reservoir, Colliford, on Bodmin Moor. We were also joined by a camera crew from the BBC Gardeners' World team who wanted to film some field botanists recording in the wild for a programme on native plants. During some of the footage we managed to mention the BPS and this was included in the final programme. Colliford reservoir was constructed in the 1970s, flooding a large area of moor and pasture, and a part falls within a tetrad that needed surveying for the BSBI Local Change survey. The aim of the day was also to look for *Botrychium lunaria*, which was last seen in 1987 during a previous survey, in short unimproved sheep-grazed pasture. This species has been elusive in Cornwall, being last seen in 1995 on Kit Hill (20/3771). It was slightly late for looking and combined with a very dry spring and hungry sheep, it was not promising! Despite thorough searching no plants were seen. However, we did re-locate some plants of *Oreopteris limbosperma*, and a new locality for *Asplenium trichomanes* subsp. *quadrivalens* on a long-forgotten wall.

Nare Head (10/9137) and Kiberick Cove (10/9237 & 10/9238), South Cornwall – Wednesday 14 July

This meeting was organised as a Cornwall Invertebrate Group meeting, but a few attending also recorded the ferns. The cliffs here are a mix of basalt (Dolerite) and shales, with small

outcrops of serpentine and gabbro, giving the cliffs a slightly base-rich flora. These rocks are a continuance of the serpentine and gabbro rocks found at the Lizard peninsula to the south-west. *Asplenium marinum* and *A. obovatum* subsp. *lanceolatum* were seen on the cliffs and between rocks and most surprising was the discovery of *Equisetum telmateia* in a seepage area half-way up the cliff at the back of Kiberick Cove (10/925381). This is a completely new locality and indeed new for 10/93, but it shares a similar cliff seepage habitat as that found on the east coast of the Lizard, where it also shares similar geology. *E. telmateia* is a very rare species in Cornwall, being native only to these cliff localities.

Bishop's Wood area (10/8248 & 10/8348), north of Truro – Saturday 17 July

Another meeting surveying for the BSBI Local Change survey took place in pleasant and publicly accessible Forestry Commission-owned Bishop's Wood and St Clement Woods north of Truro. A small population of *Hymenophyllum tunbrigense* grows on a north-east facing rock-face on a wooded bank in the woods (10/831486). This was checked to see how the spring drought had affected it, but luckily, due in part to the persistent rain on the day, the plants, though clearly affected by earlier spring drought, were recovering. No other populations have yet been discovered in the surrounding woods but it could possibly exist in similar habitats nearby. It is always worth checking rocky outcrops and shaded woodlands with rock outcrops for this species in Cornwall as in recent years it has been found in sites not recorded for many years, including Helman Tor (20/0661), Hustyn Wood (10/9968) and College Wood (10/7733). *Osmunda regalis* was found in wet woodland nearby (10/829483) as well as *Dryopteris carthusiana*, *D. dilatata* and their hybrid, *D.* x *deweveri*, which was re-located by Matt Stribley who was the first to find the hybrid at this site only a few years before.

Dodman Point (20/0039), South Cornwall – Wednesday 11 August

This meeting was intended as a general botanical survey of Dodman Point, a beautiful headland owned by the National Trust on the south coast of Cornwall south-west of St Austell. A number of different habitats were explored, including maritime cliff. Grazing by Dexter cattle had recently been introduced on the coastal heath, which had become very overgrown with scrub; whilst checking out their only drinking supply – an old well on the side of the cliff – a small population of *Osmunda regalis* was found at 20/000394. This proved to be new for the hectad 20/03.

Cardinham Woods (20/1067), near Bodmin – Wednesday 6 October

Cardinham Woods, Forestry Commission woodland south-east of Bodmin, were visited as part of a conifer identification workshop in conjunction with the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS). Again, a number of those attending were members of the BPS, so a list of ferns seen was made. Land planted with conifers can be a very interesting habitat for ferns in Cornwall, especially where there have been rides created or where areas have been clear-felled. The vegetation that had previously existed at these sites, especially on old heathland, more often than not reappears, and ferns seem to be among the first colonisers. *Athyrium filix-femina*, *Blechnum spicant* and *Dryopteris dilatata* are common at Cardinham, and *Oreopteris limbosperma* was found in small numbers along a forest ride at 20/106675. In the last couple of years this species has been found in similar places in other managed woodlands, conifer and broad-leaved, in East Cornwall, sometimes in completely new localities. In the past local botanists thought of it as a species of streamsides on open moorland but these new discoveries are prompting further searches in other woodland. Occurrence of this species does seem to relate to disturbance and/or clearance that provides at least a little extra light in woodland.

Breney Common (20/0561) and Helman Tor (20/0661), near Bodmin – Wednesday 20 October

A fern identification workshop was held by ERCCIS at the Cornwall Wildlife Trust reserve south of Bodmin at Helman Tor and Breney Common. For the 20 people on the course, a good selection of ferns in all their different shapes and stages were seen. It was also encouraging to the beginners that on an average day's walk in Cornwall they would probably encounter 10-15 species out of approximately 40, not many to learn to identify compared with flowering plants! Before we could leave the car park on the afternoon walk in the field, *Asplenium ruta-muraria*, *A. trichomanes* subsp. *quadrivalens*, *A. scolopendrium*, *A. adiantum-nigrum* and *Polypodium interjectum* were admired on the Lowertown Chapel lime-mortared granite wall at 20/052612. Along the hedgebanks were *Polystichum setiferum*, *Dryopteris dilatata*, *D. filix-mas* and *Polypodium vulgare*. The group walked through the wet *Salix cinerea* subsp. *oleifolia* woodland at Breney Common, a low-lying area around a granite tor, previously extensively tin-streamed. Tin streaming was widespread in parts of Cornwall where tin-rich alluvial deposits were dug out and the tin extracted. The area turned over has developed into a mosaic of heath, wet woodland, pools and bogs rich in wildlife. We added *Equisetum fluviatile*, *E. palustre*, *E. arvense* and *E.* x *litorale*, and in a small stream a small population of *Pilularia globulifera* was found. Following a boardwalk through hummocky ground and *Pteridium aquilinum*-dominated scrub, *Blechnum spicant*, *Dryopteris carthusiana*, *D. affinis* subspp. *affinis* and *borreri* and huge specimens of *Osmunda regalis* were admired. Following a small track up to Helman Tor, a granite outcrop with many fine views, we sought and found some patches of *Hymenophyllum tunbrigense* between the granite stones (20/062616) and marvelled at how thin each frond was. A search for *Asplenium obovatum* subsp. *lanceolatum* along a granite-walled lane proved fruitless as the brambles and scrubby growth had obscured the crevices between each stone. Walking back along the road through Breney Common, many stream-side specimens of *Dryopteris dilatata* were checked to see if they could in fact be *D. aemula*, but none of them proved to be this, although it grows on hedgebanks nearby.

Rare Plant Register

The majority of the recording trips planned by the Botanical Cornwall Group for 2005 and 2006 will be target surveys for checking records and sites of records of the rarer species of flowering plants and ferns found in Cornwall. Some of Cornwall's rarest species are pteridophytes restricted to only one or two sites: *Lycopodiella inundata*, *Gymnocarpium dryopteris* and *Thelypteris palustris*. Cornwall also has populations of taxa of some national importance including *Isoetes histrix* and *Asplenium obovatum* subsp. *lanceolatum*.

The intention is to produce a rare plant register for Cornwall towards the end of 2006. Selection of species is still being decided but as a start all the records for species found in 20 tetrads or less will be examined to guide targeted recording for sites not seen since 1990, as well as those species that are Nationally Rare or Nationally Scarce. About 30,000 records are being assessed and the number of species included will probably be around 200, including ferns. Existing records have been grouped by 10km x 10km square to make searching in local areas more efficient. If you would like to help in any of the surveys or would like to attend any meetings, please contact me.

I should also like to request that any records of ferns (and flowering plants) that you may have made on visits to Cornwall but have not yet submitted to the BSBI recorders for the last few years (Rosaline Murphy, Ian Bennallick (East Cornwall) or Dr Colin French (West Cornwall)), be sent to me. I will incorporate your records into the rare plant register and pass them on to the relevant recorder.

SCOTLAND

Lenzie and Bearsden, Glasgow – 6 March — Frank McGavigan

(*Participants*: Adrian Dyer, Grant Fortune, Tim Godfrey, Yvonne Golding, Keith Gooderham, Frank Katzer, Frank McGavigan, Heather McHaffie, Duncan McLeod, Mike Taylor, Alastair Wardlaw.)

Lenzie Moss (26/646718) is an acidic, raised bog, once used for peat extraction but now being preserved as a wildlife habitat. Around the edges where the water table has dropped scrub birch is taking over, making the perfect habitat for *Dryopteris dilatata*. As you might expect, this species is abundant, almost to the total exclusion of other pteridophytes, though on our walk round we did spot isolated *D. filix-mas* and *D. affinis*. This early in the year we were only finding winter-green fronds, so other things might have been missed, for example *Equisetum sylvaticum*, which we know is present, and there was no sign of the *Botrychium lunaria* that has been reported from here in the past, presumably on the more open, drier areas.

Deprived in the morning we overdosed in the afternoon at Alastair Wardlaw's garden in Bearsden, for not only does Alastair hold the National Collection of British Native Ferns and an increasing variety of tree-ferns, but he also grows a wide range of other ferns from around the world. On this occasion I was particularly struck by *Polystichum nepalense* (like an elongated *P. lonchitis*) but no doubt the others had their favourites. Only an extended visit, preferably in summer, can really do the collection justice.

Our aim was to see Alastair's elaborate methods of winter protection for his tree-ferns. Bubble wrap, transparent roofs, plastic mini-greenhouses, electric warming cables, temperature buffers (see 2003 *Pteridologist* 4(2)), just about every conceivable form of protection is used. Unfortunately, cold winds in January had desiccated the fronds but with signs of new growth apparent it was clear the protection was successful in keeping the ferns alive, if not green.

Alastair also showed us an *Asplenium* hybridisation experiment he has been running. The hybridisations attempted were:

A. adiantum-nigrum x *A. ceterach*
A. ruta-muraria x *A. ceterach*
A. ruta-muraria x *A. trichomanes* subsp. *quadrivalens*
A. scolopendrium x *A. adiantum-nigrum*
A. scolopendrium x *A. trichomanes* subsp. *quadrivalens*
A. scolopendrium x *A. ceterach*

Each attempted hybridisation was done in a separate seed tray of sterilised compost containing 64 attempted matings in an 8x8 array, spaced about one centimetre apart. At each of the mating sites a few prothalli of one species were pressed up against a few of the other species so as to allow mating. At the time of our visit, the matings had been incubated for 13 months with abundant small sporophytes in each tray, but mostly they were of one or other of the parent species rather than an obvious hybrid. However, some of the sporophytes were too small to be identifiable with certainty and the experiment therefore needs more time. We await the final results with fascinated interest.

The final two hours of the day were given over to slide presentations. Firstly, Yvonne Golding, by pulling together photographs from three participants in the recent BPS Trinidad trip, gave an excellent flavour of the huge variety of ferns experienced, along with some of the other flora and fauna. By clever use of Powerpoint software she had named each species on screen, thus avoiding interruptions for clarification. After a delicious and substantial tea from Jackie Wardlaw, we finished with a light-hearted

presentation from Adrian Dyer, including proof that the bearer of fern seed at mid-summer disappears. Don't believe me? Ask him for the incontrovertible evidence.

Fife – 22 May **Frank McGavigan & Mike Taylor**

(*Participants*: Jean Calder, Grant Fortune, Tim Godfrey, Frank Katzer, Andrew MacGregor, Frank McGavigan, Heather McHaffie, Ian Ross, Mike Taylor.)

Despite frequent east winds, BPS member Willie Duncan has created a haven for ferns in his garden at Drumeldrie (37/441033). He led us through his labyrinth of outdoor rooms and enclosures, each full of delights – two huge clumps of *Adiantum pedatum*, nearly three feet high and as much across, a fine specimen of *Asplenium scolopendrium* 'Crispum Bolton's Nobile', *Polystichum falcinellum*, similar to but clearly different from *P. munitum*, *Polypodium cambricum* 'Richard Kayse', originally found in 1668 and propagated by division ever since, the delicate looking but very hardy *Asplenium dareoides*, a stand of surprisingly well-behaved *Matteuccia struthiopteris*, genuine *Athyrium filix-femina* 'Victoriae', and many more. Willie skilfully blends his ferns with other plants, too numerous to mention here, except trilliums to die for and a quite magnificent *Arisaema sikokianum*, as primeval-looking as any fern.

St Andrews Botanic Garden (37/502161) is very different, much larger of course and more open, without Willie's secret enclosures and dense planting. There are various hardy ferns scattered about the grounds but the best of the ferns are in the glasshouses. The one marked 'Fernery' held a very plumose soft shield fern, marked only as *Polystichum setiferum* cv., while the tropical orchid house was full of pteridological interest: *Platycerium*, *Davallia*, *Pyrrosia* and *Cyathea cooperi* pushing the roof off, but the heat soon drove us back outside to the coolness of the pond where we were attracted by a beautiful clump of blue poppies, marked *Meconopsis* 'Willie Duncan', a fitting tribute to a superb horticulturalist.

At Dura Den (37/415145) we met at Kemback Church Hall where Heather immediately found *Dryopteris filix-mas*, *D. dilatata* and *Pteridium aquilinum* on the bank alongside the Hall. Beside the stream alongside the car park there was a *Dryopteris affinis* growing on a fallen sycamore branch, which was identified as subsp. *borreri*, and *Asplenium scolopendrium* was seen on the opposite bank. Our foray was in mixed woodland on the steep sides of a small burn. We entered the wood by climbing up alongside a waterfall during which we saw *Polypodium vulgare* growing on a sandstone block, and *Athyrium filix-femina* and *Polystichum aculeatum* were quickly found beside the burn, with a small quantity of *Blechnum spicant* growing on a ledge above the burn. There was plenty of *Dryopteris affinis* and *D. filix-mas* in the woods and several discussions were held on the subspecies of the former or even hybrids between the two. However, the general conclusion reached was that the fronds were too immature to be reliably identified down to this level. I must mention that during the walk Heather gave a lecture to three total strangers on the life-cycle of ferns and how it differed from that of other vascular plants, at the end of which they thanked her and quickly moved on. Near the end of the wood we noticed a small stand of *Athyrium filix-femina* with purple rachis and Heather pointed out the diploid variety of the lesser celandine.

On the way back we passed Kemback Cemetery, where *Asplenium adiantum-nigrum* was spotted growing on the wall. No exotic or unusual ferns were found in Dura Den (we had seen them earlier) but the walk in the wood in beautiful weather was the perfect end to a highly successful day.

Loch Loch, Perthshire (27/988744) – 26 June

Frank McGavigan

(*Participants*: Bob Callow, Yvonne Golding, Frank Katzer, Frank McGavigan, and sundry University of Manchester students on a course at Kindrogan Field Centre.)

To go on a fern foray in Scotland and not come across *Pteridium aquilinum* is quite remarkable, but the strangely named Loch Loch, at an altitude of 450 metres, is above the bracken line this far north and for once we could not add the eagle fern to our tally. But we did see eagles, and from as close as we are ever likely to get as they flew directly over our vehicles and hovered above a nearby wood in search of prey.

That was before we parked (we had got permission to park on a private estate) and began the long five and a half mile trek to our destination. On the way we noted *Blechnum spicant*, *Oreopteris limbosperma*, *Equisetum palustre* and clumps of *Dryopteris affinis* subsp. *affinis*, standing out like beacons of brilliant yellow-green in the drabber landscape. Loch Loch itself is a beautiful spot between two scree-covered slopes in the lee of Beinn a' Ghlo. Not that we could see this famous triple-peaked mountain, shrouded as it was in rain-sodden cloud, and indeed by the time we arrived the rain was falling on us – midsummer in Scotland.

The scree on the east side of the loch is a mixture of calcareous and other rock, so that as well as the ferns we would expect to find on an acidic Scottish hillside – *Dryopteris oreades*, *D. dilatata*, *D. affinis* and *Athyrium filix-femina*, there were also the lime-likers – some beautiful clumps of *Polystichum lonchitis*, tucked in crevices out of reach of bestial nibblers, *Asplenium viride*, *A. ruta-muraria*, *A. trichomanes*, and at least one plant of *Polystichum aculeatum*. *Cystopteris fragilis*, *Gymnocarpium dryopteris* and *Phegopteris connectilis* were also found sheltering among the rocks. This was the tally that we arrived at, though not everyone saw everything as the weather was not conducive to scrambling around slippery scree. Bob pointed out the very rare (in Britain) *Oxytropus campestre*, with its downy, glaucous, pinnate leaves and pale yellow pea flowers, a beautiful thing.

As the rain steadily worsened, Frank and I decided to head back before we were totally drenched. After all, hot baths were considerably further away for us than for those staying at Kindrogan. But this is a site well worth another visit in better weather. We might even see those eagles again.

Isle of Skye and Attadale – 18-19 September

Frank McGavigan

(*Participants*: Roland Ennos, Carl Farmer, Tim Godfrey, Yvonne Golding, Frank Katzer, Frank McGavigan, Andy MacGregor, James Merryweather, Mike Taylor, Alastair and Jackie Wardlaw.)

The forecast was for rain but Saturday had plenty of sunny periods between the showers with the Cuillin drifting in and out of view among the swirling clouds. We started at Ord (18/616134), where a small limestone outcrop on the shore revealed four aspleniums (*A. ruta-muraria*, *A. adiantum-nigrum*, *A. scolopendrium* and *A. trichomanes* subsp. *quadrivalens*) with *Pteridium aquilinum* in close proximity. Then we went into more typically acidic terrain in search of filmy ferns, passing on the way *Oreopteris limbosperma*, *Athyrium filix-femina*, *Dryopteris filix-mas*, *Blechnum spicant* and a nice patch of grass of Parnassus (not a grass at all, of course, but a glistening white flower).

In scrubby birch woodland we found *Phegopteris connectilis*, a photogenic plant of *Dryopteris aemula*, and *D. affinis*, both subspp. *affinis* and *borreri*. James held a quick tutorial on the differences between the two, emphasising the need to look for a suite of characters (the roundness of the pinnules, the way the indusium splits, the outline of the fronds, the erectness of the plant, etc.). No one characteristic could be described as typical of one subspecies or another. Once you get your eye in, the two *Hymenophyllum* are easier to distinguish. *H. wilsonii* has pointed, untoothed sori, and on *H. tunbrigense* the sori are

always toothed and rounded. No, the real difficulty with filmy ferns is noticing them at all among all the mosses and liverworts that frequent similar habitats.

On the way back we found *Asplenium viride* and *A. trichomanes* subsp. *quadrivalens*, again on limestone outcrops, before inspecting Tim's garden where his collection of ferns was much admired. Especially nice were *Polystichum vestitum* and *P. silvaticum* from New Zealand.

In the afternoon at Teangue (18/665085) James took us to a sea-cave holding *Trichomanes speciosum* in its gametophyte form. While cleaning the slime from the cave off our anoraks we wondered if, given suitable conditions, the gametophytes could ever develop into sporophytes, and if not why not.

Then we went on to the limestone pavement at Suardal (18/621201) to find the only known site of *Asplenium ceterach* on Skye. Having spotted some large mats of *Dryas octopetala* (unfortunately no longer in flower), alien *Cotoneaster*, *Asplenium trichomanes* subsp. *quadrivalens*, *A. ruta-muraria*, *A. adiantum-nigrum*, *A. scolopendrium*, *Cystopteris fragilis* and *Polystichum aculeatum*, we eventually found eight clumps of the *A. ceterach* in the old quarry roadway. Then, again with a bit of searching, and strangely at a lower altitude, we found four plants of *Polystichum lonchitis*. I cannot think of two more attractive ferns to end the day on.

Sunday saw us hunting in the rain for horsetails - abundant on Skye. We searched the roadside to the south of the Old Man of Storr car park (18 507529) for *Equisetum variegatum* without success but did find *E. palustre*, *E. fluviatile*, *E. arvense*, *E. telmateia*, and then, a little further north, the star find of the day, *E.* x *font-queri*, the hybrid between *E. telmateia* and *E. palustre* – a real stunner with a strikingly yellow-green colour. Carl, who had led us to these sites, then took us to Penifiler (18/485413) to look at *E. hyemale*, *E. sylvaticum*, and *E. fluviatile*. Anyone interested in Skye should visit Carl's website – www.nature-diary.co.uk – which has some beautiful close-up photos of the local flora.

By now the rain was relentless and our visit to Attadale Gardens in Strathcarron on the mainland (18/926391) could have been a wash-out, except that the garden is so beautiful and the fern collection so magnificent that we did not mind the weather. The garden has been described fully in *Pteridologist* (2004. 4(3)) and in any case there are too many ferns to detail here. Sufficient to say that among those inherited from Peter Hainsworth was the gem I have been looking for for years – *Dryopteris neorosthornii*, with large, jet-black scales on the rachis. We encouraged Geoff Stephenson, the Head Gardener, to sow spores and promised to come back to purchase the plants.

THE AMERICAN FERN SOCIETY

The AFS invites all readers of this *Bulletin* to join the American Fern Society. You are welcome to visit the AFS website: amerfernsoc.org. Regular members receive *Fiddlehead Forum* five times a year, a newsletter published for those who are interested in growing ferns, hunting for them and expanding their knowledge of ferns. Journal members also receive the scientific quarterly *American Fern Journal*. Membership costs $19 and $32 per annum respectively for members residing outside USA, Canada or Mexico, including postage for airmail-assisted delivery. For particulars please write to Dr George Yatskievych, Missouri Botanical Garden, P.O. Box 299, St Louis, Missouri 63166-0299, USA (george.yatskievych@mobot.org). Online credit card payment is now available for the AFS via the AFS website.

AFS SUBSCRIPTION PAYMENTS: Our societies have an exchange arrangement whereby members of the BPS can pay their AFS subscription through the BPS Membership Secretary and *vice versa*. To take advantage of this, prospective members residing in Great Britain should contact Mr M.S. Porter, 5 West Avenue, Wigton, Cumbria CA7 9LG (Membership@eBPS.org.uk).

Group of European Pteridologists (GEP) Excursion

Liguria, Italy – 12-16 April

Pat Acock

Our GEP Organiser, Ronnie Viane, had arranged with local botanist, Remo Bernardello, who has worked in this beautiful part of Italy professionally for many years, to lead this year's excursion. In collaboration with colleague Dino Marchetti, Remo led us to many interesting sites on some interesting substrates over the next three days. Principally we were looking at *Asplenium*, it being a little early for many of the other ferns.

We met as usual over Monday dinner and were able to catch up with many old friends and this year, more especially, a large number of new members and Italian botanists, adding up to about forty people.

On Tuesday we headed into the mountains north of Sestri Levante. While waiting for the convoy to reassemble, someone with bright eyes spotted *Equisetum ramosissimum* in the orchard beside the road. We then drove on to the first of three sites for the day. In Libiola, a mining area known from Roman times and with connections in London, we found *Anogramma leptophylla*, *Asplenium onopteris*, *A. adiantum-nigrum* and the hybrid *A.* x *ticinense* all growing in profusion on the spoil heap from the serpentine workings. From a tunnel a continuous draft of warm air came from the depths of the earth and above the entrance *Nephrolepis cordifolia* had managed to find a niche in which to proliferate. In a small gully on the other side of the valley we were able to see a variety of ferns, including *Polypodium cambricum*, which is rather common in these parts, as well as *P. interjectum* and the possible hybrid *P.* x *shivasiae*. *Cyrtomium falcatum*, *Adiantum capillus-veneris*, *Dryopteris affinis* subsp. *cambrensis* and *Selaginella denticulata* were also found.

After lunch we moved on to another mining area with iron-rich, hard metamorphic rock. On the railway track we were able to spot straight away *Asplenium* x *alternifolium* growing with *A. septentrionale*. On the rock wall was also *Cheilanthes tinaei* and *Notholaena marantae* but these were incidental to the finding of *Asplenium foreziense*, a most special fern and quite rare at this location. Another alien, *Pteris cretica*, was found in a large cave.

After a splendid dinner we had a slide-show from Remo, who showed a large number of the rarer hybrid spleenworts he had found in this area.

On Wednesday we looked at another alien in the town, *Pteris vittata*, before meeting Dr Alberto Girani, the director of the Parco Naturale di Portofino in S. Margherita Ligure. After giving us a brief description of the Park, Dr Girani came with us to Cape Portofino. After a short walk the substrate changed to a calcareous conglomerate and after a scramble through an old tunnel we soon started seeing *Asplenium petrarchae* subsp. *petrarchae*. Beyond the tunnel we came to a wall where the outstanding fern of the day, *A. fontanum*, was growing well.

Our final day, Thursday, saw us near the cemetery of Sestri Levante. Above the cemetery, on a retaining bank in an olive orchard, we were able to see *A. obovatum* subsp. *lanceolatum*. We then followed an interesting trail with fine views of the Costa del Castello. We moved on to another serpentine area, hoping to find the serpentine form of *A. adiantum-nigrum* but we were not successful on this occasion. The rain had driven a few back to their cars at this point so most of us made our way to Sestri where there was just time for a little souvenir hunting before our final dinner.

This was once again a well organised and delightful coming together of European Pteridologists. In 2005 we hope to be in Brittany. If you are interested in joining the GEP annual excursion please contact Prof. Ronnie Viane, Dept. of Morphology, Systematics and Ecology, Section: Pteridology, K.L. Ledeganckstraat 35, Gent, B-9000 Belgium. E-mail: Ronnie.viane@rug.ac.be; Tel. & Fax: +329-2645057.

HORTICULTURAL SHOWS

BBC GARDENERS' WORLD LIVE! – 16-20 June

A.R. Busby

On arrival at Hall 17, I was pleased to see that the staging was ready, even if it was in the wrong place again. A few minutes of hurried activity with hammer and nails had the stand much as I wanted it. In spite of careful cultivation I again had difficulty finding about twenty ferns of reasonable standard to grace the show bench; a couple of 'star players' failed to make the grade and I was obliged to use two rather unsuitable stand-bys.

The ferns used on this year's stand were: *Adiantum pedatum*, *A. subpumilum*, *Asplenium scolopendrium*, *A. scolopendrium* 'Crispum', *A. trichomanes*, *Athyrium filix-femina*, *A. filix-femina* Cristatum Group, 'Minutissimum' and 'Frizelliae Multifidum', *Athyrium niponicum* 'Pictum', *Dryopteris affinis* 'Polydactyla' and 'Stableri', *D. erythrosora*, *D. filix-mas*, *D. filix-mas* Cristata Group and 'Crispa Congesta', *D. dilatata* 'Crispa Whiteside', *D. oreades*, *Gymnocarpium dryopteris* 'Plumosum', *Matteuccia struthiopteris*, *Osmunda regalis*, *Polystichum setiferum*, *P. setiferum* 'Divisilobum' and 'Plumosum Bevis'.

It was most encouraging to be visited by several members of the Society, including Mick and Linda Craddock, Ron and Pat Cole, Clive and Doreen Brotherton, Elise Knox-Thomas, Peter Lamb, Tim Godfrey and Mark Morgan. My thanks to Maurice and Vilma Green, Alan Ogden, Bryan and Gill Smith, Ray and Brenda Smith, Alan Ogden and Jeff Whysall for helping me to man the stand.

SOUTHPORT FLOWER SHOW – 19-22 August

A.R. Busby

This year marked the 75th anniversary of Southport Show and to celebrate this fact, 2004 was to be a four day event. A show lasting four days had been tried before but proved to be extremely unpopular with the exhibitors. I had understood that four days this year was to be a one-off, but the dates for the 2005 show reveal that it is to be another four-day event. It will be interesting to see how the exhibitors respond to this *fait accompli*.

Southport usually waits until the Show is underway before inflicting any deluge on the show-ground, however, this year it could not wait and exhibitors arrived on the set-up day to very boggy ground and large lakes of water. The show staff did their best with boarding and liberal quantities of shredded bark, but those without gumboots got their feet wet.

It was encouraging to see an increased number of exhibits staged in the competitive classes, largely due to the efforts of a new exhibitor. Overall presentation was good, but it was sad to see another disqualification due to misinterpretation of the rules.

The prize-winners are listed below. The judge was A.R. Busby.

Class 6 Individual Championship: Four hardy, two greenhouse and two foreign hardy ferns: 1st B. Russ, 2nd M. Hayward, 3rd I. Rawson (3 entries)

Class 7 Three Hardy British Ferns (three distinct species not varieties): 2nd I. Rawson (1 entry)

Class 8 One Foreign Fern Hardy in Great Britain: 1st B. Russ, 2nd M. Hayward, 3rd I. Rawson (4 entries)

Class 9 Three *Polypodium* (distinct varieties): (no entries)

Class 10 Three *Polystichum* (distinct varieties): (1 entry – disqualified)

Class 11 Three *Athyrium* (distinct varieties): 1st M. Hayward (2 entries)

Class 12 Three *Asplenium* (excluding *A. scolopendrium*): 1st M. Hayward (2 entries)

Class 13 One British Fern (any kind or variety): 1st M. Hayward, 2nd I. Rawson, 3rd B. Russ (4 entries)

Class 14 One Greenhouse Fern: 1st H.J. Abbott, 2nd D. Need, 3rd M. Hayward (5 entries)
Class 15 Three *Asplenium scolopendrium* (3 distinct varieties): (1 entry; no award given)

Points are no longer awarded to winners. The exhibitor with the most wins in all classes except class six receives the Happiland Trophy. This year's winner was Dr Michael Hayward. The BPS Championship Cup for Class Six was won by Mr Brian Russ. Two ferns exhibited by Michael Hayward are worth a mention: a fine example of *Asplenium flaccidum*, to my knowledge the first time this has been exhibited at Southport, and *Athyrium niponicum* 'Silver Falls', exhibited without a blemish - SUPERB!

I would like to express my thanks to the following members who took the trouble to make long journeys to see the show and spend a few minutes chatting to us on the stand: Brian Russ, Peter Lamb, Susan Cupitt, Christine Mullins, Joan Hindle, Andrew Jamieson and Trevor and Sue Piearce. My special thanks to Ann Gill, Ray and Brenda Smith and Rita Baker for their valued support, and to Michael Hayward, who not only gave unstinting service on the stand, but was kind enough to invite us to his home for supper and a tour of his very ferny garden on the Friday evening. We all came away carrying treasures and memories of a very special Southport Show.

The dates of next year's Show are the 18th to 21st August 2005.

This was my last year organising the Society stand and matters are in hand to find someone to take over. We are always short of help on the stand so if any members have just a few hours to spare I would be very pleased to pass on any offers of help to the new organiser. If any members are interested in showing ferns at the Southport Show, I will still be pleased to advise on the pleasures and pitfalls of competitive showing. For a show schedule please apply to Southport Flower Show Ltd, Victoria Park, Rotten Row, Southport, PR8 2BZ.

(www.southportflowershow.co.uk)

photo: courtesy of Southport Flower Show Ltd

Mark Michelmore congratulates Matt Busby on his retirement from exhibiting at Southport Show after 31 years

Michael Hayward, Ray Smith, Mark Michelmore (Chief Executive of Southport Flower Show Ltd), A.R. (Matt) Busby and Tim Timmerman (Chairman of Show)

SECRETARIAL NOTES

Please note: *names and contact details of all officers can be found on the inside of the front cover of this* Bulletin.

ANNUAL GENERAL MEETING 2005 – The 102nd AGM will take place on Saturday 19th March 2005 at the University of Manchester's School of Biological Sciences Botanical Experimental Grounds, Whitworth Lane, Fallowfield, Manchester M14 2HB at 14.00 hrs.

COMMITTEE VACANCIES – In accordance with paragraph 3, section 3 of the Society's Constitution, three vacancies will occur due to the retirement of two of the longest serving Committee members and one unfilled vacancy. Nominations are invited from Society members to fill these vacancies at the Annual General Meeting in 2005. The names of the nominees, proposers and seconders, together with a letter from the nominee indicating his/her willingness to serve, should reach the General Secretary before the AGM. **Members with a potential interest in serving as an elected Committee member** and who wish to know more of the duties and responsibilities are invited to contact the Secretary.

SUBSCRIPTIONS 2005 – Members are reminded that subscriptions were due on 1st January 2005 and should be paid to the Membership Secretary. Cheques should be made payable to 'The British Pteridological Society'. Current rates are given inside the front cover of this issue. Payment can be made by **Credit Card** - see renewal form. **Standing Order** forms are printed on the reverse of renewal forms and are also available from the Membership Secretary and the BPS website (www.eBPS.org.uk). Standing Orders may be paid on 1st January or 1st February. In either case, membership is deemed to be from 1st January to 31st December.

Members are reminded that according to Clause 11 of the Constitution "*Any member failing to pay his subscription within six calendar months of its becoming due shall be liable to have his name removed from the List of Members of this Society*"! Defaulting members who do not amend their Standing Orders with their bank and are still paying at the old rate shall be notified that they will not receive the *Fern Gazette* until such time as their Standing Orders are updated. Members still paying even earlier rates shall be notified that their name will be removed from the Membership List until such times as Standing Orders are updated or cancelled. Any monies received from old Standing Orders will be treated as a donation.

GIFT AID – Since 2003 the BPS has been a registered charity. This enables us to claim back from the Inland Revenue 28p for every pound paid in the annual subscription for each member who authorises us to do so. By August 2004 164 members had returned a Gift Aid form and thus the Society benefited by just over £900. (In 2003 the sum was just over £670 based on authorisation by 122 members.) While this is obviously an extremely valuable addition to the Society's annual income, it could be a considerably more. There are probably a further 300-350 members on whose subscriptions the Society could claim Gift Aid if these members authorised it. This could lead to perhaps another £1,500 per annum. All that is required is a minimal amount of form filling (about one minute) and a second class stamp. **Even better, the form has only to be filled in once.** The forms are retained by the Gift Aid Secretary and the same ones used year after year to make the claim.

The small number of provisos are set out below:

1. Gift Aid is available only to members who reside in the UK.
2. Members on whose subscription Gift Aid is claimed must be paying income tax or capital gains tax at least equal to the amount claimed.
3. Members whose subscriptions are allowed as an expense in connection with their employment may not claim Gift Aid. (We have learned of this only very recently. Members in this position who have already sent in their authorisation should let the Gift Aid Secretary know so that no further claims are made on their behalf.)

If the Inland Revenue allows us to claim relief on your membership subscription please authorise us to do so. It's the equivalent of a yearly £5 donation to the Society.

PUBLICATIONS BY AIRMAIL – Our journals can be sent by airmail to overseas members, provided that they advise the Membership Secretary and pay an additional subscription to cover airmail postage. See inside front cover for rates.

CODES OF SAFETY, CONDUCT AND DECLARATION FORM – All members attending Society field meetings should be aware of the Society's *Safety Code* (see 2000 *Bulletin* 5(5): 275), as well as the *Code of Conduct for the Conservation and Enjoyment of Wild Plants* (see 1999 *Bulletin* 5(4): 199), and are required to sign a Declaration form. Copies of these documents can be obtained from the Meetings Secretary or BPS website.

GREENFIELD FUND – This fund, set up as a memorial to one of our Society's great fern growers, Percy Greenfield, is used to finance approved projects, helping with the cost of necessary equipment, books and travel expenses. Percy Greenfield's interest leaned very much towards the non-scientific side of our activities and it is felt that he would have wanted this taken into consideration when decisions are made. Workers eligible for university or college grants and similar support are not therefore eligible for help from the fund. Applications will normally be dealt with once a year and should be submitted by 1st November. Anyone wishing to avail themselves of this fund should contact the Hon. General Secretary for further information.

CENTENARY FUND – This fund is used to promote the study of all aspects of pteridophytes – horticultural, scientific and educational, whether by amateurs, students or professional pteridologists. As such its scope is much broader and more flexible than the Greenfield Fund. Applications will normally be dealt with once a year and should be submitted by 1st November. Anyone wishing to avail themselves of this fund should contact the Hon. General Secretary for further information.

SPECIAL INTEREST GROUPS – There are three Special Interest Groups. For further information please send a stamped addressed envelope to the organisers:

Tree-ferns: Prof. A.C. Wardlaw, 92 Drymen Road, Bearsden, Glasgow G61 2SY.
Foreign Hardy Ferns: A.R. (Matt) Busby, 16 Kirby Corner Road, Canley, Coventry CV4 8GD.
Filmy Ferns: S.J. Munyard, 234 Harold Road, Hastings, East Sussex TN35 5NG.

Alternatively the organisers may be contacted by e-mail: Tree-Ferns@eBPS.org.uk, ForeignHardyFerns@eBPS.org.uk, FilmyFerns@eBPS.org.uk.

MEMBERS INFORMATION SERVICE – Members often require information and advice on many aspects of pteridophytes but are reluctant to ask or simply do not know where to obtain help. Queries from members on any aspects of the biology, identification or cultivation of ferns or fern allies should be sent, with three first class stamps, to the Horticultural Information Officer.

READING CIRCLE – The Society operates a reading circle for the *American Fern Journal*, a quarterly publication containing much information for those seriously interested in ferns. The *Fiddlehead Forum*, which publishes many 'ferny' items of interest to the amateur grower, accompanies it. To receive these journals contact the Horticultural Information Officer.

FOREIGN FERN SOCIETY JOURNALS HELD BY THE SOCIETY – The Society exchanges journals with many other fern societies in the world. We have a collection of journals/newsletters from societies in the United States (2), Australia (3), New Zealand, India and the Netherlands. If members would like to browse these, they are welcome to get in touch with the Back Numbers Organiser for a list of our holdings. The journals can then be borrowed for just the cost of postage both ways.

BACK NUMBERS OF JOURNALS - Our Back Numbers are always a good source of Pteridological information. They contain articles written by an array of authors on interesting fern subjects. You can have a sample pack of six journals for £6. A full list of journal parts stocked is available from Pat Acock.

E-MAIL ADDRESSES – These have been published for the first time, as agreed, for members who (1) have a stable e-mail address that is unlikely to change in the immediate future, and (2) keep up-to-date with their e-mail messages. Supplementary lists will be published in the *Bulletin*. Members who wish to have their e-mail address added, changed or removed are requested to inform the Membership Secretary BY E-MAIL at: Membership@eBPS.org.uk.

BPS WEBSITE – www.eBPS.org.uk (Hosted by The Natural History Museum.) In today's internet-oriented world, it is increasingly important for the Society to see the website as a major means of communication. The website provides information for the membership, but it is also, and perhaps more importantly, a 'shop-window' to present the Society and pteridology to the wider world. Our aim is to make our website the premier source on the internet of information about pteridophytes and pteridology. We have recently formed an Advisory Group to support the Website Editor. This group will help to clarify the objectives for our website and to support the work necessary to achieve those objectives. Members with views on what the website should provide and with offers to help with content should contact the Web Site Editor, Anthony Pigott.

BPS E-MAIL LIST – Members are reminded that there is an e-mail group or 'list' for BPS members only. Its purpose is for discussion of Society matters of common interest and for communication of information; it is not intended as a list to discuss the botany or growing of ferns, for which another list such as FERNS would be more appropriate. See the BPS Website under 'Links'. Send a blank e-mail to: BPS-subscribe@yahoogroups.com to subscribe. Unless your real name is obvious from your e-mail address, please send an e-mail at the same time to Webmaster@eBPS.org.uk in order to identify yourself as a BPS member. Members are encouraged to join as the potential benefits are greater with a fuller participation. Contact the BPS Webmaster for further information.

BPS VIDEO 'BRITISH FERNS' – This twenty-five minute video shows most of the native British ferns growing in their natural habitats. It demonstrates the wide variety of size and form to be found in British ferns and the broad range of habitats they colonise. Attention is drawn to key identification characters for each species.

Schering Agriculture and the National Museum of Wales funded the video. It is available for loan to members and interested organisations for £3, to cover handling costs (UK only). For further details write to the General Secretary enclosing a stamped addressed envelope.

BPS FIRST MINUTE BOOK – This historical document containing the Committee Minutes from the inception of the Society in 1891 to 1983 is available in full colour on a CD ROM at £10 per copy, including postage. Place your order through Booksales.

BRITISH WILDLIFE – Concessionary individual subscriptions to *British Wildlife* magazine are available to BPS members.

ROYAL HORTICULTURAL SOCIETY - Our Society is affiliated to the RHS, enabling a limited number of members to enjoy certain privileges in connection with RHS Shows, competitions and services.

PAYMENT OF EXPENSES – Documents setting out the *Rules of Conduct for the Treasurer* (BPS/T/1), the *Rules for Seeking Re-imbursement of Personal Travelling and Administrative Expenses* by officers and members acting on behalf of the Society (BPS/T/2), and the *Authorities for Payment* (BPS/T/3) can be obtained from the Honorary Treasurer on request.

COPYRIGHT – All contributors to the BPS journals and webpage are required to sign an agreement assigning ownership of copyright of the article, photograph etc. to the BPS. This has the aim of safeguarding the contributors' work from unlawful copying and use. It does not stop contributors from using their own work elsewhere provided that they acknowledge the original source of publication.

MERCHANDISE – Do you have a BPS sweatshirt, tee-shirt or polo shirt? These are all dark green with a small embroidered BPS logo in yellow. Other items, such as BPS ties, metal badges, ferny greetings cards, bookmarks, pens and mugs, are also for sale. Can't find your order form? Contact the Merchandise Organisers or look on the website for details. The Organisers also welcome suggestions for new stock.

THE FUTURE OF BOOKSALES – Steve Munyard regretfully needs to relinquish his role as Booksales Organiser, so we are looking for volunteers to take over for 2005. Would you be interested? There is the possibility of splitting management of BPS Special Publications from the sale of other new/second-hand books. Contact Steve to find out what is involved.

SOUTHPORT FLOWER SHOW – Why not spend a few hours or a day helping man the Society's stand? You do not need to be an expert on ferns or fern growing, just prepared to spend a few hours or a day with us. Expenses are available, as well as free entry to the Show. Details are available from Michael Hayward, 6 Far Moss Road, Blundellsands, Liverpool, Merseyside L23 8TQ. mhaywardL23@blueyonder.co.uk.

DESTINATION OF PTERIDOPHYTE RECORDS – Members are reminded that records of ferns and fern allies in the wild should be sent to the appropriate Botanical Society of the British Isles (BSBI) Vice-county recorders, whose addresses are available from the BSBI website or BSBI yearbook, which is available to BSBI members. For those without access to the Internet or yearbook, records may be sent to the Conservation Officer who will forward them to the BSBI. These records are stored centrally at the Biological Records Centre, and can be accessed by the BPS.

NURSERY ADVERTISEMENTS – Members with nurseries that offer ferns are reminded that they may place an advertisement in the *Bulletin*, *Pteridologist* and on the website, free of charge, in return for the inclusion of a note about the Society in their catalogues. A suitable form of words is available from the Secretary. The Website Editor can add a suitable image of a plant or the nursery against the nursery's details, if it is wanted. The leaflet *Where to see ferns* is soon to be revised. If members wish their nursery to be included, please contact the Hon. Gen. Secretary.

THE HARDY FERN FOUNDATION – The Hardy Fern Foundation was founded in 1989 to establish a comprehensive collection of the world's hardy ferns for display, testing, evaluation, public education and introduction to the gardening and horticultural community. Many rare and unusual species, hybrids and varieties are being propagated from spores and tested in selected environments for their different degrees of hardiness and ornamental garden value. Membership costs just $25 for regular members or $30 for family membership. Members receive a first-rate introductory pack, a quarterly journal and access to their spore exchange.

A reciprocal arrangement has been set up to make payment easier. Those wishing to join or renew their subscription for 2005 should contact Pat Acock, 13 Star Lane, St Mary Cray, Kent BR5 3LJ as soon as possible after reading this notice and will be informed of the current membership rate in pounds. The contact in the USA is Michelle Bundy, 16038 46th Ave, South, Tukwila, WA 98188 USA.

AMERICAN FERN SOCIETY – The AFS has had a reciprocal payment arrangement with the BPS for many years through their respective Membership Secretaries. See AFS advert on p. 237.

ANNUAL GENERAL MEETING 2004

MINUTES of the 101st Annual General Meeting of the British Pteridological Society held at the Natural History Museum, London, on Saturday 20th March 2004 at 14.00 hours.

IN THE CHAIR: The President, Prof. A.C. Wardlaw.

PRESENT: Mr R.G. Ackers, Mr P.J. Acock, Mr C. Brotherton, Mr A.R. Busby, Miss J.M. Camus, Dr A.F Dyer, Prof. J.A. Edgington, Mr R.L. Golding, Dr Y.C. Golding, Dr M. Hayward, Mrs R. Hibbs, Miss J.M. Ide, Ms E. Knox-Thomas, Mr A. Leonard, Mr H.W. Matthews, Mr F. McGavigan, Dr J.W. Merryweather, Mr S.J. & Mrs K. Munyard, Mr A.H. Ogden, Mr C.E. Polkey, Mr M.S. Porter, Miss A.M. Paul, Mr M.H. Rickard, Mr P.H. Ripley, Mr B.D. & Mrs G. Smith, Mr B.R. Stevenson, Mr R.W. Sykes, Mrs J. Wardlaw, Miss L.A.M. Williams, Mr L.H. Winning.

Item 1 – APOLOGIES FOR ABSENCE: Mr R.J. Cooke, Dr M. Gibby, Dr N.J. Hards, Mr A.C. Jermy, Dr S.D. Martinelli, Mrs R. Stevenson, Dr T.G. Walker.

Item 2 — APPROVAL OF MINUTES: The Minutes of the 100th Annual General Meeting held on Saturday 22nd March 2003, and published in the 2003 *Bulletin* (Vol. 6, No. 2) were approved (proposed by Dr A.F. Dyer, seconded by Miss A.M. Paul) and signed by the Chairman.

Item 3 – MATTERS ARISING: None.

Item 4 – REPORT OF THE HONORARY GENERAL SECRETARY (J.M. Ide):

I had hoped that this report would be shorter than in previous years, but on going through the Minutes of your Committee's meetings in 2003, I found that this would not be so.

ARCHIVES: The setting up of a formal archive for the Society is now well under way thanks to the enthusiasm and hard work of A.R. (Matt) Busby our Archivist. (See his report for more details.) A mission statement on the purpose of the archives has been prepared, which will provide the Archivist with a focus on the material to be kept.

PUBLICATIONS: Our President has done more than his fair share of work during his presidency, taking on the unforgiving task of keeping the publications afloat as well as his presidential duties. It is perhaps, therefore, not unexpected that he feels he rightly deserves a rest and has offered his resignation as Acting Chairman of the Publications Subcommittee with effect from this AGM. With reluctance and regret the Committee must respect his wishes.

EXPENSES INCURRED BY COMMITTEE MEMBERS IN ATTENDING MEETINGS: It was considered invidious that anyone who had accepted the responsibility of becoming a Committee member, and ex-officio a Trustee of the Society, should have to go to the Treasurer for permission to claim expenses for attending Committee meetings. It was also unacceptable that some Committee members should be discriminated against financially because of the distance of their home from London, where most Committee meetings are held, and that a member should feel unable to accept nomination as a Committee member for financial reasons. However, if every Committee member claimed their expenses for attending meetings it could lead to an unsustainable depletion of the Society's finances.

A small Working Party, consisting of A.C. Wardlaw (President), A. Leonard (Treasurer) and B.A. Thomas (Vice-President) has been set up to explore the implications of financing members to attend Committee meetings, and to make recommendations for changes to the *Rules for Seeking Reimbursement of Personal Travelling and Administrative Expenses*. The terms of reference include considering the number of Committee meetings per year, the venue of meetings, the size of the Committee and the most efficient ways of having meetings, including the possibility of setting up conference telephone links to enable distant members to participate.

SOCIETY'S INSURANCE POLICY: R.G. Ackers finished his review on the insurance implications of the Society being a charity. The Committee agreed his proposal to continue the policy held with the Royal and Sun Alliance Insurance Co. as part of a group policy arranged by the North West Naturalists' Union for voluntary natural history societies. The policy is for Public Liability only, to a sum of five million pounds, at an annual premium of £40 plus annual membership fee to the NWNU of £10.

The Committee agreed R.G. Ackers' recommendation not to take out a much more expensive policy that would give protection against libel and accepted the proposal that articles for journals should be checked for possible libellous content by other persons in addition to the editor. However, the original policy not to take out protection against libel is now being reviewed as part of a 'doomsday scenario', i.e. someone taking action over an event that was not covered by insurance and which, if successful, would drain the Society of its financial resources and might also render the Trustees liable.

ATTENDANCE OF MINORS AT FIELD MEETINGS: A young teenage member has been attending meetings during the past year and concern was expressed about the insurance implications of the attendance of minors at meetings. Our current insurance policy contains no exclusion clause regarding minors and it has been ascertained that there is no public liability problem. However, it was agreed, again as part of our 'best practice' policy, that when a minor attends a meeting unaccompanied by his/her legal guardian, the legal guardian must sign a form stating that he/she agrees to the minor attending the meeting and also that he/she agrees that one named person acts *in loco parentis*. The 'responsible adult' must also sign the form.

FERN ATLAS SUBCOMMITTEE: Following publication of the BSBI's *New Atlas of the British & Irish Flora* (2002), the Fern Atlas Subcommittee, which has lain dormant for a number of years, is preparing to resume activity. The subcommittee (Chairman, A.C. Pigott) is currently reviewing its objectives and formulating the best way forward; we hope to have news of significant progress next year.

NCCPG FERN COLLECTIONS: Last year I reported that the Society had become a member of the NCCPG as part of an initiative to encourage members to create National Collections of ferns.

S.E. Czeladzinski presented a paper to the Committee setting out the current position on national collections of ferns recognised by the NCCPG, suggesting collections that the Society should aim to see added, and the advantages to the Society of having collections held by its members. It was felt that cultivar collections would be particularly valuable. S.E. Czeladzinski is currently seeking and negotiating sites where collections might be held.

MAILING OF NOTICES: As the *Bulletin* was unlikely to be published before March, it was agreed that a separate mailing of the usual inserts would be made well before Christmas and the meetings programme would be put on the website. This would give members much longer than usual notice of the meetings for the coming year and should enable them to avoid conflicting commitments more easily. The value of this early posting would be seen in the numbers attending meetings.

SALE OF MEMBERSHIP LIST: A request to rent the Society's Membership list for the purpose of promoting pteridophyte publications was received from The New York Botanical Garden Press. It was agreed that as a matter of principle the Society would not sell details of its membership to another organisation or individual. In this particular instance, it was agreed to distribute fliers with one of our publications for a cost negotiated with the Press.

FIRST AID COURSES: As part of the Society's policy to implement best practice wherever possible as a "hallmark of a well run Charity", suitable First Aid courses were investigated. Unfortunately, the BPS could not afford to pay for training for interested leaders of field meetings. However, the Committee decided it wished to encourage leaders

to gain First Aid skills and details of where information could be obtained for local courses have been added to the *Guidelines for Leaders*. I am happy to report that an oft-times leader has since completed a course!

DESTINATION OF PTERIDOPHYTE RECORDS: We received a query about the destination for field records of pteridophytes made by members. The Committee reviewed and confirmed the present arrangements and these are reiterated in the *Secretary's Notes* in the recent issue of the *Bulletin* (Vol. 6, Part 2, 2003), where more details can be found.

EDINBURGH SYMPOSIUM 2004: The Committee made a grant of £500 to the Committee organising the Edinburgh Symposium to be held in July this year (2004), with the proviso that it be used to enable one or more BPS members to attend the meeting. The possibility of the Proceedings forming a future issue of the *Gazette* is under discussion.

Before I end on some good news, I would urge members to read the *Secretarial Notes* in the *Bulletin*, particularly if you haven't done so for a number of years. There are various significant new items.

EXPIRY OF PATRONAGE: The good news! The five-year period of the patronage by HRH The Prince of Wales has come to an end, and we are pleased to report that the Prince has agreed to continue as Patron of the Society for a further period. We hear that he really does read the journals that we send to him!

SECRETARY'S CONCLUDING COMMENT: One day your Committee will find time to talk about ferns!

The Secretary's report was approved, proposed by M.H. Rickard, seconded by M.S. Porter.

Item 5 – REPORT OF THE HONORARY TREASURER (A. Leonard): The Treasurer presented the provisional accounts for the year ending 31st December 2003. He explained that the accounts had yet to be finalised and contained projected values.

In answer to a suggestion from the floor, the Treasurer agreed that the Merchandise and Booksales Accounts could also be published in full. He would resolve the matter with the respective Managers in time for next year's statement.

The Finance report was accepted unanimously; proposed by R.W. Sykes, seconded by P.H. Ripley. (For the final accounts see page 255.)

Item 6 – REPORT OF THE MEMBERSHIP SECRETARY (M.S. Porter): The consistency of BPS membership never fails to amaze me! Practically every year the Society gains about 75 new members (76 in 2001, 76 in 2002 and 77 in 2003) while between 20 and 30 members resign and about 50 lapse. In these circumstances it is perhaps not surprising that our numbers remain fairly constant; in outstanding years we top 800 but in most years our membership is in the high 700s, usually between 770 and 790. It takes something startling to change the pattern – in 2000 Martin Rickard published the *Plantfinder's Guide to Garden Ferns* and we had over 100 new members, while in 2002 when membership subscription rates went up, nearly 40 members resigned and membership numbers fell by about 35. Nevertheless, these variations are over a very small range and we are maintaining our numbers well, probably better than many specialist societies of comparable size.

For 2003 the details were: 34 Complimentary or Honorary members, 15 Student members, 63 Family members, 85 Subscribers and 593 'Ordinary' members, giving 790 members in all, our third highest membership total. As noted above, 77 new members joined the Society. Against this had to be set the 25 resignations, the 43 lapsed members and the death of 8 valued members of the Society.

Last year, while entering membership renewals on the database, I decided to do a comparison of the different amounts of time taken for this task. When things are straightforward – an up-to-date Standing Order or a correctly made-out cheque – it takes one minute to find the name on the database and enter details. Credit card payments take longer to deal with, as special forms have to be filled in, so this may be three minutes per member. However, when a Standing Order has not been brought up-to-date or personal reminders have to be sent out, the amount of time to be spent soars to at least ten minutes per member and this is doubled if there is no response to the first reminder. I reckon, therefore, that it takes me half as long to process the details for the 600 plus members who pay correctly as it does for the 150 plus members who don't. My grateful thanks to the 600 members who pay correctly!

STATEMENT CONCERNING GIFT AID: When the BPS was registered as a charity it became possible for us to claim Gift Aid on each member's subscriptions – so long as that member is paying some income tax. The Inland Revenue repays us 28 pence for every pound paid in as membership subscription. Thus for each Full Member paying £20 we receive £5.60, for each Optional Member paying £16 we receive £4.48, for each Student Member paying £10 we receive £2.80, for each Subscriber paying £33 we receive £9.24 and for each Family Member making an additional payment of £2 we receive £0.56.

Gift Aid is, of course, not open to overseas members so we have up to about 550 eligible members. Last year 122 members sent in their forms authorising us to claim Gift Aid with the result that the Society was £673.68 better off. However, 122 is roughly a quarter of all eligible members. I suspect we could benefit by about £2,500 per year if all members filled in the form. So please, if you didn't fill in your form last year can you do so this year? It will cost you nothing (apart, perhaps, from a 2nd class stamp) and there is a minimal amount of form filling to do: viz. First Name, Surname, Address and Postcode. Finally, once it is done it doesn't have to be done again. I can use the form year after year to make the claims.

After a brief exchange of information about Gift Aid it was agreed that efforts should be made to encourage the three-quarters of the membership who could be entitled to Gift Aid their subscriptions but had not done so, to do so, possibly via an article in the *Pteridologist* and/or by a statement in the *Secretarial Notes* in the *Bulletin*.

Approval of the report was proposed by J.W. Merryweather, seconded by A.M. Paul and accepted unanimously.

Item 7 – REPORT OF THE CONSERVATION OFFICER AND RECORDER (R.J. Cooke): I have very little to report this year in terms of my activities on behalf of the BPS, so I thought I would update members on progress of one of the issues I have previously discussed, the re-introduction of *Woodsia ilvensis* to several sites in the uplands of Britain, and I am grateful to Heather McHaffie for providing me with this summary. All of the introduced and re-introduced populations at four sites continue to be monitored. Populations are stable, and they appear to have survived last summer's dry conditions. The plants are producing spores but as yet no sporelings have been found. This, of course, remains a key aspect to their long term survival. This research is producing many interesting results, but as with all research it raises as many questions as it answers and I am looking forward to reading the full results, which I understand will appear in the *Pteridologist*.

Some of you may know that I am also the BSBI referee for *Polypodium*, and I know other members also act as BSBI referees. My reason for mentioning this is that over the last few months I have identified polypodiums and their hybrids from several sites not recorded in the new *Plant Atlas*. I am sure this is the case with other ferns, and I think we now have to begin to plan an updated fern atlas. The last one was published in 1978, 14 years after the BSBI atlas. I hope that we will be able to produce a second edition rather sooner than 2015! In doing so, however, we should make use of technology and in particular our web site. We have a Fern Atlas

subcommittee in the BPS and we now need to consider how best to stimulate additional recording and make the results widely accessible. Members of the BPS have a key role here and I hope we in the subcommittee will be able to provide further guidance in the not-too-distant future.

Item 8 – SUBCOMMITTEE (Permanent) REPORTS:

8.1 – MEETINGS SUBCOMMITTEE (P.J. Acock): Personally, I cannot remember a year when we have had such a diverse and interesting collection of meetings. Thanks to the hard work put in by the leaders of each meeting, those attending found it difficult to find superlatives to describe them. We started with a well-attended AGM with a fine and informative collection of talks on fern classification, which prompted lively discussion.

Steve and Karen Munyard's excursion to SW Ireland was like the best family holiday with ferns. In the evening we shared the day's experiences around a meal table in the lounge of a large house, the base for the meeting. It was a truly magnificent excursion with great company and superb organisation.

Barry Thomas led another large meeting around his part of mid-Wales, when over 30 people were treated to more ferns, interesting talks and cream teas than one could imagine could be packed into a weekend! Joy Neal regally entertained the whole group to the delights of her garden and home cooking when the group visited on the Saturday afternoon.

After more than two years of planning, Sue Olsen and the Hardy Fern Foundation led us on one of our most ambitious tours yet. From registration at the University of Seattle to the farewell dinner, we were whisked from one delight to another in the most carefully organised tour of a most beautiful part of the USA.

We tried a new venture last year to actively encourage people to support Matt Busby at the Southport Flower Show. Although the number of attendees was disappointing, the weekend was enjoyable and a trip to the Show definitely can be recommended. The Show celebrates its 75th year this year (2004).

Paul Ripley organised a magical trip to the Somerset and Devon borders. The base for the excursion was a lovely inn at Lynton, from where we were taken to see the ferny delights of the area and enjoyed another cream tea at Joan Lorraine's well-known, wonderful garden at Porlock.

To round off the year, Graham Ackers, Alastair Wardlaw and Bob Johns arranged a tree-fern workshop at Kew that attracted members from all corners of the kingdom. They came in droves and were not disappointed. Sixty members and friends delighted in getting their heads around the subject from all sorts of angles and over 20 gathered at a Thai restaurant in the evening to continue the discussions!

Superb weather, good company, but above all the very generous giving of many hours of time by the leaders and, in some cases sizeable teams of co-organisers, resulted in a year of meetings that will go down in the memories of all those who were fortunate enough to have taken part.

8.2 – PUBLICATIONS SUBCOMMITTEE (Prof. A.C. Wardlaw): As in previous years, the President served as Acting Chairman of this Committee pending other arrangements. No meetings took place but members of the Committee exchanged information electronically as all have e-mail.

BPS journals and other publications are progressively being supplied to printing firms as finished files on CD. This procedure reduces the costs of production, as compared with former times when the printer would make printing plates for the illustrations, do the page make-up and send the Editor the page-proofs for correction. The new procedures allow greater editorial control, but are more demanding of time, skills and computer equipment than in the past. The Society is therefore much indebted to those individuals who serve as today's Editors, and who give freely of their time and expertise to produce the publications, which are so widely appreciated.

8.2.1 – ***BULLETIN***: The 2003 *Bulletin*, only recently printed, again has 88 pages. The exceptionally large size reflects the steadily increasing activities of the Regional Groups, and four National Field meetings, two of which were overseas, and the inclusion of more photographs. This size may be compared with the 1997 *Bulletin* when only 56 pages were needed, and 1993, when 44 pages sufficed. Contributors are requested to send their reports and photographs as early as possible to facilitate earlier publication. Miss A.M. Paul continues the expert and dedicated service she has delivered to the Society for many years as Editor of the *Bulletin*.

8.2.2 – ***THE FERN GAZETTE***: In April 2003, Parts 6, 7 and 8 of Volume 16 were issued as a single 230-page volume containing the Proceedings of the 2001 Guildford Symposium on *Fern Flora Worldwide: Threats and Responses*. This especially large volume was edited by Dr A.F. Dyer, Dr E. Sheffield and Prof. A.C. Wardlaw and was dedicated to Mr A.C. Jermy on the occasion of his 70th birthday. It contained a preface by HRH The Prince of Wales. In December 2003 the first Part of Volume 17 was issued by the new joint Editors, Dr M. Gibby and Mr A. Leonard. It is expected that future issues will contain the Proceedings of the forthcoming Symposium *Ferns for the 21st Century*, to be held at the Royal Botanic Garden Edinburgh in July 2004. Under active discussion is a proposal to encourage submission of review articles, in addition to the original papers that the Journal currently attracts.

8.2.3 – ***PTERIDOLOGIST***: Volume 4, Part 2 of the new A4-size *Pteridologist* was produced as a 35-page issue in 2003. The Editor, Dr J.W. Merryweather, is to be congratulated for his initiative and designer talents in this very attractive product. As in the previous issue, the *Tree Fern Newsletter* (No. 9) was included as a feature of the magazine. The editor still requests plenty of short articles, brief notes, news and letters as well as a constant supply of major articles. New authors are encouraged to contribute.

8.2.4 – ***WORLDWIDE WEB SITE***: Mr A.C. Pigott continues to manage the Society's site on the Worldwide Web and is always on the lookout for new material. Members are referred to his article published in a previous *Bulletin* (Vol. 5(5): 276. 2000).

8.2.5 – ***OTHER PUBLICATIONS AND SPECIAL PUBLICATIONS*:**

8.2.5.1 – ***Index for Pteridologist:*** Mr M. Searle finished compiling the indexes for the first three volumes of *Pteridologist*, i.e. from 1984 until 2001 inclusive. The text is now being edited and will be issued as a booklet of approximately 43 pages of double-column format. These indexes will provide searchable access to the wide range of pteridological subjects, persons and places in this journal during the first 18 years of its existence. Publication and distribution of the combined indexes is expected during 2004 and the Committee approved that all current members should be sent a free copy.

8.2.5.2 – ***Index for Bulletin:*** Mr J. Crowe completed a draft index to volumes 1-5 of the *BPS Bulletin*. This now needs to be edited and formatted for publication as a booklet of approximately 28 pages. We hope to be able to print and distribute copies of this very useful publication to members before the next AGM.

8.2.5.3 – ***Polystichum: Variation in the British Shield Ferns, by J.W. Dyce, expanded and updated by Robert Sykes, Martin Rickard & Peter Barnes:*** This BPS Special Publication (No. 7) has been many years in preparation from the incomplete manuscript left by Jimmy Dyce at the time of his death in 1996. The three Editors have had the major task of collecting illustrations of all the cultivars of the British polystichums, and revising the text left by the author. The work is in the final stages of preparation and will run to about 90 A4-size pages. The exact form of publication, particularly the number of colour pictures, is still under discussion. Hopefully this very attractive and authoritative volume will be published during 2004.

8.2.5.4 – BPS Leaflets: The BPS Membership leaflet is being revised and two new A5 leaflets, *Getting Help from Your Society* and *An Introductory Selection of Books on Ferns*

and Fern Allies are being prepared for publication. We also plan to revise *Where to See Ferns*. Mrs R. Hibbs has produced draft designs for consideration by the Publications Subcommittee. We expect that these will all be made available both as hard copy and on the BPS Website.

***Discussion*:** There were queries and discussion from the floor. R.W. Sykes commented that the recent issue of the *Bulletin* was 'a jolly good one'. Regarding *Pteridologist*, J.W. Merryweather said that he would find it helpful to receive comments. The copy date for *Pteridologist* is 30th November of the preceding year. Two particular issues dominated discussion about the website. Some members experienced difficulty in getting onto the website; when this occurred the member should inform the Website Editor. Concern was also expressed at the lack of updating of the website; the 2004 meetings programme was not yet available. It was suggested that even when no amendments were made to a long-standing page, the update date should be changed regularly to indicate that the page had been reviewed.

Concern was also expressed at the cost commitment over the next two years for the several publications already in preparation. There was some division of opinion on the necessity of sending the index for the *Pteridologist* free to all members. The following proposal was put to the meeting and accepted 31:2 against: "In principle, the meeting agrees that the index to the *Pteridologist* should be free to current members of the Society unless the cost was unreasonable, and that the matter should be referred to the Committee" M.S. Porter proposed, and R. Hibbs seconded a similar proposal for the index to the *Bulletin*, which was accepted unanimously. The Treasurer requested that cost estimates should be available when the Committee discussed the matter. R.W. Sykes further suggested that if the cost for either of the indexes was not over £1,000, then they should be distributed free to all current members receiving the respective journals. This latter suggestion was not put to the meeting.

8.3 – FERN VARIETIES NOMENCLATURE SUBCOMMITTEE: No report.

Item 9 – SUBCOMMITTEE (ad hoc) REPORTS:

9.1 – FERN ATLAS SUBCOMMITTEE: No report. See Secretary's Report, Item 4.

Item 10 – COMMITTEE APPOINTED OFFICERS AND MANAGERS:

10.1 – ARCHIVIST (A.R. Busby): The archive consists of mainly three types of material: 1. Correspondence and photographs, 2. A colour-slide collection and 3. Pressed fronds.

During this last year I have been able to list most of the correspondence and photographs. They are now kept in numbered file boxes. At some future date this material will be sorted into chronological order. I hope to list the colour-slide collection some time this year. The major task will be the sorting and examining of several hundred pressed fronds so that those considered worth keeping can be mounted.

A.R. Busby was asked if he had the material held by the previous Archivist, Nigel Hall. He replied that he had contacted Nigel Hall, requesting that the material be passed to him so that it could be integrated with the material already in the new archive. He was still waiting for it.

10.2 – BOOKSALES (S.J. Munyard): Sales of books were steady for 2003, with more second-hand titles available than in 2002. BPS publications still sell steadily but sales of the Centenary titles remain very slow. A number of new titles are now in stock. As I will be giving up Booksales by the end of 2004 I am preparing a sale catalogue to reduce the number of non-fern titles for the person taking over this task.

10.3 – MERCHANDISE (B.D. & G. Smith): We have now been running merchandise for several years and 2003 was our best year yet. Overall, sales income amounted to nearly

£1,000. Unlike 2001, we didn't have a symposium to give a big input. So what has been so much better this year than last year, when income was only about £200?

Over the year we made an effort to improve the range of BPS items. We produced a new improved merchandise list and we attended some venues where we were able to show people what they can buy. The new items introduced in 2003 – BPS mugs, embroidered sweatshirts, embroidered polo shirts and the ever-expanding range of Anne Wright's lovely greetings cards – all proved popular, and sales are going well.

We updated the merchandise list in April and it now occupies a full two pages (at least, one page of items and one page of order form). As new advertising ventures, a copy of the list was placed on the BPS Web page, and we also put a small article in *Pteridologist* about merchandising. Copies of the new list were also mailed to members towards the end of the summer. All of these have helped with sales.

As for face-to-face selling, we made use of two national meetings (Ireland and Wales), and the very successful tree-fern meeting last autumn. We also managed to sell several non-clothing items to the general public while manning the BPS stand at the NEC Gardeners' World Live! show last June.

So what of the future? Following the tradition established last year of launching new items at the AGM, we have yet more new goodies to tempt you this year. These include new bookmarks with a 'guess the fern' frond, BPS pens, the BPS fern video, and more new designs of Anne's greetings cards. We've also updated the Merchandise List and hopefully everyone received a copy with their *Bulletin*; you can also find it on the Web page.

Finally, if anyone has any ideas for items of a 'ferny' nature that they would like to see, please do let us know.

A.R. Busby raised the possibility of a calendar, which the managers had previously suggested at a Committee meeting. They replied that calendars were still a possibility but it was necessary to start their production in time to commence sales in June or July of the previous year.

10.4 – PLANT EXCHANGE (R.G. Ackers): The present Plant Exchange List has remained current for the whole of 2003. The last version was number 5, and was sent to e-mail participants in May 2003.

To determine whether the 'wants list' addition to the scheme should be continued, a questionnaire was distributed in December 2003 asking participants if they had received their 'wants', and requesting feedback on the scheme as a whole. The results of the survey were as follows:–

Total number of wants in list	67
Total fulfilled	11
Total unfulfilled	33
No response received	23

Thus a success rate of 25% occurred, probably a reasonable result considering that some of the wants were pretty obscure, some participants understandably trying to obtain rarities. The present system allows the 'wants' to be viewed by scheme participants only, but a wider audience could be achieved by publishing a 'wants list' in the *Bulletin*, and this is being considered. From the questionnaire, *ad hoc* comments on the scheme in general were favourable, with few suggestions for changes.

The intention is to produce a new list in the spring, and a request for new offers and wants was distributed with the *Bulletin* last week. This set a 'deadline' of 31st March for potential participants to respond but in view of the *Bulletin* being distributed later than I had anticipated, I intend to extend this deadline to the end of April, after which the new list will be produced.

10.5 – SPORE EXCHANGE (B. & A. Wright): The exchange continued to be a popular service offered to members with 148 requests being received and processed, resulting in the sending out of 2,548 packets of spores. Of these, 114 requests were from UK members (England 95, Scotland 13, Wales 6) and 53 from overseas. This reaffirms the international nature of our exchange. The overseas requests were from Australia (1), Austria (1), Belgium (1) Czech Republic (1), Denmark (2), Eire (2), Estonia (1), France (3), Germany (5), Luxembourg (1), Mauritius (1), Netherlands (1), Norway (1), Poland (2), Spain (1), Sri Lanka (1), Sweden (1), USA (9).

Of the 649 taxa on the 2003 list we had requests for 575 them. Because we are no longer discarding spores after three years, we expect a steady increase in the number of species on the list. There is obviously a balance between taxa that 'run out' and 'new taxa' donated each year, but we still seem to be adding steadily to the list.

During 2003, 37 donors made 491 donations to top up the spore bank (some taxa were duplicated). Without donations there would not be an exchange. We are grateful for all the spores we receive. To plagiarise a famous author, "all spores are equal, but some are more equal than others". We are occasionally saddened by the efforts of some of our donors. They obviously go to great lengths to collect spores for the exchange only for us to find that there are few, if any, spores present in the sample they sent in. On other occasions, the donor has used sticky tape to seal round the edges of the packet, only to result in the vast majority of spores sticking to the tape and leaving so few spores free inside the packet that it is not worth our while including them in the list. It is not fair to criticise these donors and we do not wish to offend or discourage them in any way, but we do feel we should let them know that they have not provided something we can use. We make the best of what we receive and are happy to get spores in almost any condition, but we do hope that the donor has enough skill and has taken care to ensure that we can actually use their donation.

We still have to contend with the phytosanitary certificates of our US requesters, but this does not seem to be posing any great problem to date. One minor problem we noticed during the year was that there were occasions when fresh spores were in relatively short supply and the next freshest spores were more than four years old. We did not know what to do in this situation as we did not know what the requester would have preferred. We could either have given them the old spores of the taxon they were requesting, or we could have moved on to the next taxon on their list. The plan for the 2004 list is to give requesters the option to receive old spores of their preferred taxon or fresher spores of an alternative. Hopefully we can find a way of phrasing this that is unambiguous to foreign requesters.

A. Leonard and P.H. Ripley suggested that a spore-collecting workshop, possibly as part of the national programme of meetings, might be appropriate.

10.6 – HORTICULTURAL INFORMATION OFFICER (A.R. Busby): I received four requests for information in 2003. Three were requests from students of botany (one NDH student and two from Degree students) asking for information on various aspects of pteridology. The fourth was a question on germinating spores of *Ophioglossum*. All requests were dealt with to the satisfaction of the enquirers.

Item 11 – ELECTION OF OFFICERS, COMMITTEE MEMBERS AND INDEPENDENT EXAMINERS: ELECTION OF PRESIDENT: Prof. Alastair C. Wardlaw, having served his three-year term of office, retired at this meeting. The Committee had nominated Dr Adrian F. Dyer to be President for the next three years and he was elected unanimously. Dr Dyer, on accepting the Presidency, thanked Prof. Wardlaw for his effective leadership and unstinting hard work on behalf of the Society. During his presidency, and in many cases due to his personal involvement, the Society had made significant advances in several areas of its activity.

VICE-PRESIDENT: Dr Trevor Walker had completed his term as Vice-President and was thanked for his contributions to the work of the Committee during his period of office.

ELECTION OF OFFICERS AND COMMITTEE MEMBERS: The present officers of the Society were all eligible to stand for re-election and had indicated their willingness to stand. Of the present elected members of the Committee, Dr A.F. Dyer, Ms E. Knox-Thomas and Mr R.W. Sykes retired, being the longest serving members of the Committee (elected 2001). The Chairman thanked them for their service to the Society. It was proposed by A.F. Dyer and seconded by Miss A.M. Paul that the officers and those elected Committee members eligible for re-election be elected *en bloc*. The vote was unanimously in favour.

ELECTION OF NEW COMMITTEE MEMBERS: The following members were nominated for election to the Committee: Mr Graham Ackers, Mr Frank MacGavigan, Dr Fred Rumsey. and Mr Bryan Smith. There were five vacancies. No further nominations were received from the floor. It was proposed by M.S. Porter and seconded by Mrs R. Hibbs that the nominees be elected *en bloc*. This was accepted unanimously.

ELECTION OF INDEPENDENT EXAMINERS: Mr G.K. Hoare indicated that he did not wish to stand for election again as an Independent Examiner and was thanked for his services in 2003. Dr N.J. Hards, proposed by the Committee, was re-elected unanimously.

Dr Y.C. Golding proposed from the floor that the biographical details of the President-elect be given on the election notice. This was seconded by M.H. Rickard and accepted unanimously by the meeting.

Item 12 – STANSFIELD MEDAL: Prof. A.C. Wardlaw said that the Stansfield Medal, the highest award the Society could give, was rarely awarded. It gave him immense pleasure to award the medal, at this meeting, to Mr Martin H. Rickard. He had probably done more to popularise the cultivation of ferns than anyone in the recent history of the Society and the culmination of his work has been the runaway success of his recent book, *The Plantfinder's Guide to Garden Ferns*.

In accepting the medal, Martin said that it was a great thrill to receive the medal and he was sure that Jimmy Dyce would have been pleased. (See citation for Martin on page 257.)

Item 13 – ANY OTHER BUSINESS: There being no further formal matters for consideration the Chairman declared the meeting closed at 15.45 hours.

Jennifer M. Ide
Hon. Gen. Secretary

NOTES TO THE ACCOUNTS

1. The accounts reflect the subscriptions actually received in the year.
2. BPS Booksales had assets of £5,712.00 (£5,712.60) at 31.12.2003.
3. The Society made no grants in 2003.
4. The Society received £673.68 from the Inland Revenue in the form of Gift Aid.
5. The numbers of copies of publications are shown on either side of the title.
6. The Society made a loss in 2003. This was because we produced four volumes of the Fern Gazette (instead of the usual two volumes). We also set up a separate account for merchandising with an initial grant of £2,000.00. The situation will need to be monitored for 2004.

Andrew Leonard, Honorary Treasurer

I have examined the books and records of the British Pteridological Society for the year ending 31 December 2003, and can certify that this statement of accounts is in accordance with the records maintained by the Honorary Treasurer.

Dr Nick Hards, Examiner, 19th June 2004

FINANCIAL STATEMENT AS AT 31 DECEMBER 2003

ORDINARY ACCOUNT

2002		INCOME		2003
£14,791.26		Subscriptions		£15,674.54
498.10		Interest		504.10
15.66		Booksales		0.00
0.00		Spore Exchange		0.00
102.25		Merchandise		147.80
0.00		Plant Sale		0.00
0.00		Inland Revenue Gift Aid		673.68
£15,407.27		**TOTAL INCOME**		**£17,000.12**
		EXPENSES		
3,519.73		Pteridologist		3,532.25
2,308.16		Fern Gazette		7,474.27
3,497.20		Bulletin		3,819.60
128.00		Printing & Stationery		405.59
875.57		Administration & Postage		419.76
55.00		Subscriptions to Societies		97.25
50.00		Plant & Spore Exchanges		0.00
1,147.12		Meetings		318.21
0.00		Merchandise		2,000.00
0.00		Booksales		0.00
0.00		Trustees Expenses		463.69
203.28		Archive Storage		725.08
£11,784.06		**TOTAL EXPENSES**		**£19,255.70**
3,623.21		Balance (income minus expenses)		–2,255.58
13,059.13		Brought forward from previous year		16,682.34
£16,682.34		**Total in Ordinary Account**		**£14,426.76**

CENTENARY FUND

247.38		Interest		203.70
0.00		Grant		0.00
0.00		Donation to Fund		43.00
8.00	*171*	World of Ferns	*171*	0.00
6,485.59		Brought forward from previous year		6,740.97
£6,740.97		**Total in Centenary Fund**		**£6,987.67**

GREENFIELD FUND

78.25		Interest		64.35
0.00		Grant		0.00
2,051.42		Brought forward from previous year		2,129.67
£2,129.67		**Total in Greenfield Fund**		**£2,194.02**

PUBLICATIONS ACCOUNT

227.11		Interest		198.85
203.57		Offprints		306.81
35.10	*146*	Fern Names & Their Meanings	*137*	33.75
112.00	*310*	Cultivation & Propagation	*296*	61.00
30.60	*813*	History of British Pteridology	*809*	22.20
18.00	*427*	BPS Abstracts & Papers	*426*	7.50
		CD Rom – BPS Minute Book	*15*	54.96
5,954.30		Brought forward from previous year		6580.68
£6,580.68		**Total in Publications Account**		**£7265.75**

'Ferns for the 21st Century' – A Retrospect

(A Grant from the Centenary Fund)

I have just come back from a five-day symposium on 'Ferns for the 21st Century', held at the Royal Botanic Garden Edinburgh, Scotland on 12-16 July 2004. Although still having my dose of jetlag, it feels good to reminisce on the fact that I actually was with people around the world who spoke the same language as I do (I mean ferns), even for such a short time. My grateful thanks go to the Organising Committee, in particular Dr Mary Gibby, Director of Science at RBGE, who built a bridge between me and my sponsor, the British Pteridological Society, of which I am a member. Through a grant from the Centenary Fund to the conference, the BPS was mainly responsible financially for my presence at the symposium.

During the symposium, I presented a paper on 'Noteworthy pteridophyte discoveries, collections, and observations from the lowland karst forest of Bohol I. to the montane forests of Luzon, Philippines'. This was only one of a wide range of subjects covered in the symposium, catering for different interests and aspects of pteridology including ecology, fossils, molecular systematics and whole genomics, floristics and conservation. Listening to different papers made me realise how much I had to catch up in terms of using molecular tools to understand the evolutionary history or phylogeny of pteridophytes. It introduced me to some avenues that I, as a pteridologist from a tropical archipelago where 10% or more of the earth's 'ferns' are actually present, can explore and study, either in my capacity as the fern curator of the Philippine National Herbarium (PNH) or with students and other future pteridologists as an adviser or committee member. I learned first hand from the experts how *Pleuromanes* is actually not a *Trichomanes s.l.* but rather a *Hymenophyllum s.l.* based on molecular evidence, what kind of insects prey on ferns in the forests of Mexico, and how our colleagues from Canada are trying to piece together the 'footprints' that the fern ancestors left behind in Apple Bay. On the other hand, the herbarium workshop convened by Alison Paul of the Natural History Museum (BM) was an opportunity for us fern curators to exchange experiences and knowledge of how to maximise use of specimens but with minimum damage to them, given different environmental conditions, pest problems, resources and user attitudes.

Although I had to miss the fern excursion to Holyrood Park and Roslin Glen to have more time to actually examine Philippine fern collections in the herbarium of the RBGE (E), I have to admit that it was worth it because there are many unique collections of Philippine ferns there, especially those collected in the mid 1800s. Given another week or two, I could have annotated and updated some names – perhaps a good excuse for another visit to Edinburgh in the future!

My trip to Edinburgh not only successfully accomplished the scientific aspect of it but also was a get together of like minds, some of them old friends, many new acquaintances, and yet a few prospective collaborators. Additionally, my personal experience of Scotland and Edinburgh the weekend after the symposium enriched my understanding of the unique culture that the Scottish nation has and put into perspective my understanding of my own people and country. This trip surely crossed the racial, financial, cultural, geographical and, perhaps, age boundaries in the exchange of scientific knowledge among biologists around the world!

I am back in my office with an invigorated attitude towards work and towards life. Thanks Mary, and thanks BPS for such a wonderful experience.

Julie Barcelona
Manila, Philippines

AWARDS

STANSFIELD MEDAL – MARTIN H. RICKARD

At the AGM on 20th March 2004 Martin Rickard was awarded the Stansfield Medal for his services to pteridology.

It was resolved by the committee of the British Pteridological Society in 1937 that a medal would be awarded in memory of F.W. Stansfield "*to persons contributing to the advancement of the fern cult*". It is rarely given and is the Society's highest award. A Stansfield Medal was awarded to Martin Rickard last year, and this is an attempt to summarise his contribution to 'the fern cult' and to the Society.

His major contributions to spreading the good news about ferns have been his fern nursery and his books. He started the nursery, Rickard's Hardy Ferns, with his wife Hazel in 1988, and he ran it initially with her and latterly on his own until he sold it to Dick Hayward in 2003. He assembled a substantial catalogue and many of us walked round his tunnels with astonishment and delight and some envy. He hit a moment when ferns suddenly became fashionable – or did he create that moment? He certainly fuelled it, and was responsible in particular for a surge in the popularity of tree-ferns in cultivation in this country.

His displays at the major shows introduced ferns to a wider public, and were very successful in their own right: among other triumphs, he won 36 Gold Medals of the Royal Horticultural Society, and the Tudor Rose at Hampton Court (the largest annual flower show in the world) for the best display in the show (1996). In 2003 he was deservedly awarded the RHS Gold Veitch Memorial Medal for advancement of science and horticulture.

photo: A.R. Busby

Martin Rickard (*right*) **receives Stansfield Medal from Alastair Wardlaw, March 2004**

His book, *The Plantfinder's Guide to Garden Ferns* (2000), is a magisterial review of ferns hardy in this country, covering both the many cultivars so avidly sought out and bred in the nineteenth century, and numerous exotics from the temperate regions of the world, many of them introduced by him. It is a remarkable book, which can stand unashamed beside the works of some of his great predecessors in the field, Lowe, Druery and Kaye. Indeed his treatment of cultivars (particularly the polypodiums) is arguably better: his text is both informative and readable, he does not permit himself useless descriptions like Druery's 'very fine form', and his illustrations, with the advantage of modern photography, are more generous. Would that his publishers had allowed him to have more still. He also wrote the Wisley guide, *Ferns*, for the RHS in 2003, and numerous articles in magazines such as *The Garden* and *Country Life* and of course in our own journals.

It started in the 1960s. Tony Worland and Martin were fellow students on day release on the Special Botany degree course at the Cambridge Tech. They used to go off botanising together. In 1965 Martin bought the *Observer's Book of Ferns* on holiday in Grasmere, and in 1968 Tony Worland persuaded him to join the BPS. In 1969 he went on his first meet to Arran and met among others Jimmy Dyce, Henry Schollick and Fred Jackson, and discovered to his surprise and pleasure that wide age gaps are irrelevant when there is a common enthusiasm.

He soon made his mark: in 1970 he was elected onto the committee. In 1972 he wrote his first article for the *British Fern Gazette* on woodsias. This was a wide-ranging review of the history of woodsias in Britain, and was founded on a study of the 19th-century literature and herbarium records around the country. Perhaps that was the stimulus for the fine library he has built up over the years. He has a deep sense of the history – and continuity – of ferning; typical that on his recent meet in Herefordshire, he had us all searching (successfully) for beech fern, because his hero Edward Newman had "*found it abundantly near Amestrey quarry*" in about 1850.

There was a period in the 1970s, when he went out each year to France for the summer in connection with his professional work on plant diseases, and hosted a succession of fellow members, exploring the local fern flora and enjoying the good French wines.

He edited the *Bulletin* from 1979 to 1983 and was the founder editor of the *Pteridologist* from 1984 to 1993. That is 15 years editing a major Society journal, and he did it extremely well. The *Pteridologist* was a new idea (largely his idea I suspect) "*aimed at improving our service to growers and other enthusiasts*". It is hard now for this grower and enthusiast to imagine pteridological life without it. He has been a Vice-President from 1991 to the present day, broken only by his presidency, 1997-2000.

He is a good man to be with in the field, or looking round a garden – he will say modestly what he knows, which is a lot, and admit freely what he does not know; he always finds something to admire and enjoy and query. He has a very sharp eye; just a bit maddening the way he drifts off and finds something you would have dearly loved to find yourself. He has found numerous cultivars wild over the years, among them *Polypodium australe* 'Hornet' and 'Grandiceps', a *Polystichum setiferum*, parent of the handsome 'Leinthall Starkes', and *Blechnum spicant* 'Rickard's Serrate'. He has also raised new cultivars, such as *P. australe* 'Diadem' and *Athyrium filix-femina* 'Kalothrix'.

Finally I must add this: Martin is congenial company; sadly one does not get medals for being congenial, but, as it did for his old friend and mentor Jimmy Dyce, it enhances his skill in encouraging the rest of us – members of the Society, customers, friends – and sharing his experience and understanding. No-one in his generation has contributed more to the fern cult.

Robert Sykes

OBITUARIES

AUDREY G. PIGGOTT

Audrey Piggott had been very interested in ferns since early childhood. She took a degree in Botany, and went on to do a postgraduate degree in Bacteriology. She later lectured in bacteriology and household science. With her husband Charles (John), an agronomist with the British Colonial Service, she travelled over much of the world, including Sri Lanka, Ecuador, Australia, Zimbabwe and Malaysia, making pteridophyte collections in all of them, but more especially in West Malaysia (Peninsular Malaysia) and Singapore. For nearly 20 years (until 1983, when they set up home in Devon) she spent many weekends there with her husband (and sometimes with their children) collecting pteridophytes. These she meticulously numbered, prepared and labelled, her husband taking many transparencies of the specimens before they were pressed. She sent most of her collections (*c.* 3,000) to the herbarium at Kew, where Professor Eric Holttum happily confirmed or renamed them. A large and mutually helpful correspondence about ferns took place between them. These letters are preserved in the RBG Kew Archives.

Thereby Audrey built up a considerable body of expertise about the pteridophytes of the area. This knowledge culminated in her 458 page book *Ferns of Malaysia in Colour* (1984). This book, well known to many members, has proved (as intended) a fine companion to Holttum's *Ferns of Malaya* (1954 and 1968). It is copiously illustrated by Charles's colour transparencies of living plants at several magnifications per species. Anyone who has tried to photograph ferns in rainforest will know what an achievement it is to get a few good shots; to achieve thousands, and of critically named material too, is very rare.

Audrey and Charles were members of the BPS from 1976 to 1992.

Peter Edwards

JEFF WHYSALL 1946 – 2004

Midland members will be saddened to learn of the death of Jeff Whysall, who joined the BPS in 1984. In spite of a serious illness that kept him away from meetings during 2003, apparent successful treatment meant that he was able to help us on the Society stand at the BBC Gardeners' World Live! Show at the NEC this year.

Jeff was a keen and knowledgeable plantsman whose passion was propagation. Always taking keen advantage of our Society's spore exchange, he was constantly sowing spores in his greenhouse. His garden housed a goodly selection of British and foreign hardy ferns and he had several genera of exotic ferns in his greenhouse. Ferns were not his only passion. He had a large selection of 'air plants' (tillandsias) and orchids. He was an active member of several garden and specialist societies. Midland members will recall Jeff and Judith's hospitality when they invited the local fern group to their garden in July 1989.

Our sincere condolences to Judith and son Peter and daughter Jennie on their sad loss.

Matt Busby

IN MEMORIAM

We were also sorry to learn of the death of the following members (date joined BPS in brackets):

Mr John Arnold of Bedfordshire (2003)
Mr Cliff A.J. Christie of Oxfordshire (2003)
Mrs Joan Crichton of Sligo, Eire (1985)
Mrs Barbara V. Harris of Devon (2003)
Dr Martin G. Kaye of Hampshire (2003)
Mr Thomas A. McLellan of Oxfordshire (1990)
Mr Ken H. Pfeiffer of Hampshire (1997)
Mr Allan McG. Stirling of Glasgow (1971); obituary will be published in the 2005 *Bulletin*.

MEETINGS PROGRAMME 2005

Meetings Secretary: P.J. Acock
Meetings Subcommittee: R.G. Ackers, N.J. Hards, J.M. Ide, A. Leonard, P.H. Ripley

Sat. 5 February	***Polypodium* Identification Day – New Forest, Hampshire** Leader: Andy Byfield
Fri. 11 - Mon. 14 March	**Overseas Field Meeting – Cataluña, Spain** Leader: Andrew Leonard
Sat. 19 March	**AGM & Spring Indoor Meeting – Manchester** Leader: Graham Ackers (NB: Contact Graham for more info.)
Sat. 4 - Sun. 5 June	**Weekend Field Meeting – Haverfordwest, Pembrokeshire** Leader: Barry Thomas
Tues. 28 June - Fri. 8 July	**Overseas Field Meeting with Hardy Fern Foundation – Philadelphia, USA** Leader: John D. Scott
Sat. 16 - Sun. 17 July	**Weekend Field Meeting – Oxfordshire** Leader: Nick Hards
Thurs. 18 - Sun. 21 Aug.	***Southport Flower Show: BPS Stand** Further Info.: Michael Hayward
Sat. 10 - Sun. 11 Sept.	**Weekend Field Meeting – Norfolk** Leader: Bryan Smith
Sat. 19 Nov.	**Autumn Meeting – *Polystichum* Seminar & Workshop – The Herbarium, Royal Botanic Gardens, Kew, Surrey** Leader: Graham Ackers
End June - July 2006	**Ten-day Overseas Garden & Field Meeting – Germany** Leader: Berndt Peters

** Event supported by, but not organised by, the BPS.*

For further details of these and other meetings of interest to members, including information on accommodation, please see the separate Meetings Programme sheet. This can be sent to overseas members on request.

Regional Meetings

For details of additional meetings in the following areas, please contact the regional organisers, enclosing a stamped addressed envelope.

Leeds & District	B. Wright, 130 Prince Rupert Drive, Tockwith, York YO26 7PU e-mail: Leeds@eBPS.org.uk
South-East England	P.H. Ripley, North Lodge, Dene Park Gardens, Shipbourne Road, Tonbridge, Kent TN11 9NS; e-mail: SouthEast@eBPS.org.uk
East Anglia	B.R. Stevenson, Willow Cottage, Cowlinge, Newmarket, Suffolk CB8 9QB e-mail: EastAnglia@eBPS.org.uk
North-West England	R.W. Sykes, Ormandy House, Crosthwaite, Kendal, Cumbria LA8 8BP e-mail: NorthWest@eBPS.org.uk
Cornwall	I.J. Bennallick, Lower Polmorla St, Wenn, Bodmin, Cornwall PL30 5PE e-mail: Cornwall@eBPS.org.uk
Scotland	F. McGavigan, 12 Glenbank Avenue, Lenzie, Glasgow G66 5AA e-mail: Scotland@eBPS.org.uk

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